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JANUARY 1977 VOLUME 28 NUMBER 1

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE • UNITED STATES OF AMERICA •

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly by the National Climatic Center, Federal Building, Asheville, N. C. 28801
Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: January was a month for setting records. Record low temperatures were reported all during the month in nearly all areas east of the Rockies. For the month as a whole the largest negative departures from normal encompassed the States of Illinois, Indiana, Ohio, northern Kentucky, and western Pennsylvania, where average temperatures for the month were 16 to 19° below normal. Many cities in this area and in the South reported average January temperatures to be the coldest of record. Shortly after midmonth the cold air swept over Florida; meanwhile, Alaska experienced unusually balmy weather. Snow fell as far south as Miami Beach. Precipitation was below normal in a large portion of the United States. The central Rockies and areas west of the Plateau had much less than normal precipitation. The Pacific Northwest, northern California and Nevada had one third or less of their normal precipitation, further intensifying extremely dry conditions.

January began with a storm in the Southwest moving eastward into a very cold air mass. Snow fell on the Plateau, the southern Rockies and from the central Plains southward to northern Texas. The storm continued eastward and a variety of precipitation fell along the Gulf Coast from Texas to northern Florida. Rain along the Coast, freezing rain from northeast Texas through northern Alabama, and snow north of this area resulted from the storm.

A series of cold outbreaks continued to pour cold air into the country east of the Rockies, and on the 8th the cold air swept westward from the Plains and enveloped most of the west in colder than normal temperatures.

At midmonth the cold air still enveloped most of the nation although the area west of the Rockies was not as cold as the previous week. East of the Rockies it was 20 to 24° colder than normal from North Dakota to Illinois. Precipitation excluded the Southwest and was very light in the Plains. The South, the lower Mississippi Valley, and New England reported significant amounts of snow or rain.

In the week following midmouth the cold air was pooled in the Ohio Valley where temperatures were 22 to 26° below normal. Average temperatures ranged from 5 to 10° in this area. A lull in the input of cold air into the northern Plains allowed some warming in the Plains. However, the Southeast was not so fortunate. Temperatures in Florida were as much as 18 to 20° below normal and freezing temperatures occurred for five successive nights. Severe damage to fruit and vegetable crops resulted. Snow fell as far south as the Everglades. Snow also covered areas in Alabama and Georgia. During the latter part of the week rain with snow at higher elevations fell from the California Sierras into Arizona and the central Rockies.

The short lull in the flow of cold air from central Canada came to an abrupt halt during the last week of the month when an extremely cold arctic air mass plunged southward and eastward. High wind, snow, blowing snow, and bitter cold temperatures combined to create severe blizzard conditions along and behind the advancing cold air as it moved through the northern Plains, the Lakes area, the central States and the Northeast. The extreme cold and penetrating winds caused most activities to come to a halt and a number of storm related deaths were reported. Elsewhere, as the cold air penetrated the deep South, snow, sleet and freezing rain fell from north central Texas to Georgia and northern Florida. Light rain or drizzle was reported along the north Pacific Coast, but otherwise dry weather persisted in the West.

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OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JANUARY 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			*°F*			*In.*		*In.*
Alabama	2 Stations	71	29+	2 Stations	- 3	17	Chatom 4 N	8.06	Guntersville	2.62
Alaska	Beaver Falls	54	17	Umiat	-52	12	Mac Leod Harbor	67.39	Rampart 2	.07
Arizona	2 Stations	80	21+	Sanders 11 ESE	-18	9	Tonto Creek Firehouse 2	5.21	Yuma WSO AP	.03
Arkansas	2 Stations	66	26+	Yellville	-20	11	Eudora	4.54	Siloam Springs	1.04
California	San Diego WSO AP	86	17	Alturas Ranger Station	-25	29+	Mount Wilson 2	11.54	Calexico 2 NE	.03
Colorado	Walsh	66	31	Spicer	-34	9	2 Stations	2.50	Butler Ranch	.00
Connecticut	Groton	48	10	Falls Village	-15	18	Norwalk Gas Plant	3.91	Shepaug Dam	1.39
Delaware	Georgetown 5 SW	53	29	4 Stations	- 4	18+	Lewes 1 SW	2.84	Newark University Farm	1.75
Florida	3 Stations	86	29+	Niceville	8	20	Caryville	6.46	Fort Drum 5 NW	1.10
Georgia	3 Stations	74	28	Blairsville Exp. Station	- 6	18+	Helen 1 ESE	6.21	Summerville 1 SSW	2.17
Hawaii	Puukohola Heiau 98.1	91	31	Mauna Loa Slope Obs.	31	22	Kanalohuluhulu 1075	7.22	11 Stations	.00
Idaho	Three Creek	59	18	Henry	-35	9	Avery Ranger Station 2	2.89	Malta 2 E	.01
Illinois	2 Stations	45	27+	Belleville South IL Univ.	-27	17	Marion 4 NNE	2.63	2 Stations	.28
Indiana	Evansville	43	26	Scottsburg	-32	17	Saint Meinrad	3.09	Decatur 1 N	.31
Iowa	Onawa	45	23	2 Stations	-30	28+	Donnellson	1.41	Sioux City 8 N	T
Kansas	Cimarron	65	31	Holton 4 NE	-18	11	Paola	2.05	2 Stations	.13
Kentucky	Williamsburg	50	29	2 Stations	-25	18	Anchorage	3.29	Paducah FAA AP	1.37
Louisiana	Leesville	77	28	Tallulah	6	19	Pine Grove Fire Tower	7.90	Bossier City	2.44
Maine	Belfast	47	11	Van Buren 2	-37	15+	Portland WSO AP	6.46	Clayton Lake 2	1.44
Maryland	Pocomoke City	54	10	Frostburg 2	-25	18	Pocomoke City	3.14	Rockville 3 NE	.83
Massachusetts	Nantucket FAA AP	52	10	Chester 2	-30	30+	Newburyport	7.13	Adams	1.74
Michigan	2 Stations	36	24+	Stambaugh 1 S	-42	9	Whitefish Point	6.19	Midland	.26
Minnesota	3 Stations	38	24+	Thorhult 1 S	-47	16	2 Stations	1.25	2 Stations	.14
Mississippi	Picayune	72	29	University	- 8	19	Union	7.71	Water Valley 1 NNE	2.59
Missouri	Ozark Beach	54	28	Steelville 2 N	-31	17	St. Louis Gateway Arch	3.27	Lucerne	.52
Montana	Sun River 5 SW	58	18	2 Stations	-41	28	Lindbergh Lake	2.89	Gildford 1 S	.13
Nebraska	2 Stations	59	27	Greeley	-27	16	Hardy	.95	Halsey 2 W	.00
Nevada	Lathrop Wells 16 SSE	74	18	2 Stations	-26	7+	Mount Rose Bowl	2.39	Contact	.03
New Hampshire	Greenland	46	10	Colebrook 2 E	-34	9	Mount Washington	11.11	North Stratford	1.62
New Jersey	Atlantic City	52	10	2 Stations	-15	19+	Long Branch Oakhurst	3.49	Newton St. Pauls Abbey	1.12
New Mexico	Farnsworth Ranch	73	3	Eagle Nest	-30	7	Sandia Crest	3.70	2 Stations	T
New York	2 Stations	50	10	Gouverneur 3 NW	-35	18	Hooker 4 N	7.89	Hemlock	.42
North Carolina	Wilmington WSO AP	66	10	Grandfather Mountain	-20	17	Hatteras	5.30	Lake Lure	1.07
North Dakota	Linton	40	22	Marmarth	-43	28	Epping	1.30	3 Stations	.07
Ohio	Gallipolis	43	28	3 Stations	-25	19+	Dorset	3.24	Wauseon Waste Water Plt.	.39
Oklahoma	3 Stations	66	28+	Zoe 1 E	-19	10	Idabel	4.39	Hammon 1 NNE	.04
Oregon	Port Orford 2	72	19	Seneca	-29	5	Nehalem 9 NE	4.25	Boardman	.10
Pennsylvania	2 Stations	47	28	Bradford 4 W Res. 1	-36	13	Bakerstown 3 WNW	D 3.59	Raystown Lake 2	.46
Puerto Rico	Borinquen AP	94	22	Adjuntas Substation	49	9+	Arecibo 2 SE	10.15	Ponce City	.18
Rhode Island	Kingston	50	10	Kingston	-13	18	Woonsocket	4.34	Block Island WSO AP	2.59
South Carolina	3 Stations	66	10	Caesars Head	-20	18	Walterboro 2 SW	5.73	Charleston WSO CI	2.33
South Dakota	Oral	53	21	Ralph	-40	9	Lead 1 E	2.30	Gettysburg 14 W	T
Tennessee	2 Stations	58	28+	2 Stations	-17	18+	Monteagle	5.78	Huntingdon Water Plant	1.36
Texas	3 Stations	86	29+	Lipscomb	- 8	12+	Orange 4 NW	7.21	Bootleg Corner	D .05
Utah	Zion National Park	65	18	Woodruff	-25	9	Silver Lake Brighton	2.06	2 Stations	T
Vermont	2 Stations	39	25+	Mount Mansfield	-35	18	Mount Mansfield	4.90	Cornwall	1.32
Virginia	2 Stations	58	10+	Mt. Lake Biological Sta.	-22	17	Bohannon 1 NE	5.29	Manassas 3 NW	.60
Virgin Islands	Frenchmans Bay	89	21	2 Stations	64	24+	Estate Rust Op. Twist	3.04	Frederiksted	.30
Washington	Yakima WSO AP	68	18	2 Stations	-11	5	Aberdeen 20 NNE	10.59	Conconully	.00
West Virginia	2 Stations	51	29+	2 Stations	-25	18+	Terra Alta 1	D 5.45	Franklin 2 NE	.43
Wisconsin	Oconto 4 W	39	25	Couderay 8 W	-50	9	Lake Geneva	1.11	Minocqua Dam	.12
Wyoming	2 Stations	55	20+	Burgess Junction	-41	9	Snake River	2.29	2 Stations	.01

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow Ice pellets				Fastest mile (1 6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
ALABAMA																																
BIRMINGHAM	189	997.3	1020.6	5.1	-5.5	-0.2	-7.0	15.6	28+	-16.1	19+	0	24	-5.6	68	129	6	48	12	1	36	25	1.5	32	12.5	SW	26	7	10	14	6.5	54
HUNTSVILLE	190	996.6	1020.8	3.6	-7.2	-1.8	-6.8	13.3	26	-18.3	17	0	24	-7.2	68	94	-36	39	11	0	23	T	1.6	32	13.4	36	16+	7	9	15	6.4	
MOBILE	64	1012.5	1020.5	10.3	-0.4	4.9	-5.7	21.1	28	-11.1	19	0	17	-2.2	63	141	21	51	13	1	48	25	1.7	25	13.0	17	9	9	5	17	6.5	
MONTGOMERY	59	1013.2	1020.8	6.8	-2.4	2.2	-6.4	17.2	28	-13.9	19	0	23	-3.9	66	124	22	28	13	0	152	76	1.7	34	13.4	NW	10	9	6	16	6.2	48
ALASKA												B																				
ANCHORAGE	35	1001.7	1006.5	2.4	-2.4	0.0	11.2	9.4	24	-10.0	13	0	27	-3.3	78	34	13	21	12	0	155	254	0.8	2	13.0	16	4	0	2	29	9.5	39
ANNETTE	34	1015.2	1019.5	5.1	0.7	2.9	2.1	11.1	20	-8.9	4	0	10	0.6	85	149	-115	37	18	0	18	0	2.5	12	13.9	14	20	2	1	28	9.1	
BARROW	9	1022.0	1022.5	-19.8	-24.7	-22.2	3.7	-11.7	17	-33.9	22	0	31	-25.0	[illegible]	4	-2	2	9	0	56	305	5.9	5	15.6	3	17+					
BARTER ISLAND	12	1019.0	1020.9	-20.2	-26.6	-23.4	2.8	-8.3	6	-38.9	12	0	31	-25.6	77	5	-9	2	7	0	48	203	5.1	9	21.5	9	16					
BETHEL	38	992.6	998.2	-2.4	-9.0	-5.7	9.2	5.0	4	-20.0	31	0	31	-8.3	81	5	-9	2	9	0	53	229	5.2	5	19.7	18	25	1	5	25	8.7	
BETTLES	196	988.8	1014.3	-10.8	-18.9	-14.8	10.3	-1.7	25+	-34.4	31	0	31			10	-8	4	8	0	267	660	2.0	1								
BIG DELTA	386			-5.3	-11.3	-8.3	12.2	8.9	25+	-20.6	31	0	30			6	-4	2	7		175	152										
COLD BAY	29	984.4	988.0	3.9	-0.2	1.8	3.9	6.7	31	-6.7	26	0	16	0.0	87	122	61	23	25	0	122	102	4.7	14	26.8	12	5	0	8	23	8.7	
FAIRBANKS	133	992.6	1010.3	-7.7	-17.1	-12.3	12.1	7.8	24	-30.0	30	0	31	-16.1	76	8	-7	5	6	0	170	305	1.4	1	6.7	24	26	7	5	19	7.3	
GULKANA	479			-5.1	-12.4	-8.7	13.1	3.9	25+	-24.4	19+	0	30			11	-4	4	6		86	381										
HOMER	19	1000.3	1003.1	5.6	0.1	2.8		8.3	24+	-3.9	13	0	17	1.1	87	112	69	20	16	0	T	0	2.5	8	13.0	7	23+	0	2	29	9.2	
JUNEAU	4	1016.3	1017.2	3.1	0.3	1.7	6.4	6.1	31+	-7.8	2	0	13	0.6	92	117	17	29	24	0	127	76	3.2	10	15.6	12	5	2	0	29	9.3	14
KING SALMON	15	994.6	996.7	3.6	-0.9	1.3	11.7	9.4	24	-6.7	5+	0	19	-1.1	83	22	-2	5	15	0	53	76	3.9	9	15.6	5	19+	0	7	24	8.5	
KODIAK	4	996.6	1000.9	4.8	0.7	2.8	3.7	6.7	24+	-5.0	5+	0	10	1.7	89	401	273	51	29	0	T	0	4.2	11	17.0	8	16+	2	1	28	9.1	
KOTZEBUE	3	1008.8	1009.4	-6.9	-14.3	-10.6	9.2	0.6	25	-31.1	31	0	31	-12.8	81	11	4	4	9	0	208	406	6.6	8	20.6	8	4	11	3	17	6.0	
MC GRATH	105	993.6	1006.6	-8.3	-15.6	-11.9	10.8	5.6	4	-28.9	20	0	31	-14.4	83	8	-14	2	11	0	89	432	0.5	35	11.2	17	25	3	2	26	8.5	
NOME	4	1002.7	1003.6	-0.9	-7.8	-4.3	10.1	6.1	13	-18.9	31	0	31	-9.4	68	23	0	6	11	0	180	203	5.3	7	17.0	5	28	8	3	20	7.1	25
ST. PAUL ISLAND	7	988.5	989.5	0.9	-2.4	-0.8	2.5	3.9	11+	-8.9	22	0	22	-3.3	[illegible]	14	-32	3	18	0	53	203	5.4	6	20.1	10	5	3	3	25	8.6	
TALKEETNA	105			0.4	-5.6	-2.6	10.0	5.0	17	-17.8	13	0	30			67	26	19	16	0	312	508			7.6	6	20+					
UNALAKLEET	5			-3.1	-9.4	-6.2		4.4	25	-23.3	31	0	30			4		1	5		38	102			24.1	9	14	9	3	19	6.7	
VALDEZ	7			0.8	-2.5	-0.8	7.1	4.4	17	-9.4	13	0	26			299	170		21		1372				10.3	12	17	0	0	31	9.7	
YAKUTAT	9	1012.5	1013.6	4.3	0.2	2.3	6.6	8.3	16	-6.7	2	0	16	1.7	93	434	171	103	27	0	20	25	2.1	10	15.6	13	21	1	0	30	9.5	
ARIZONA																																
FLAGSTAFF	2135	786.0	1019.3	4.9	-10.7	-2.9	-0.6	13.9	19	-22.2	10	0	30	-10.0	63	47	-1	19	5	0	536	457	0.3	5	13.0	SW	3	11	2	18	5.9	67
PHOENIX	339	978.0	1017.3	18.2	6.0	12.1	1.4	24.4	20+	-0.6	11+	0	4	2.2	57	9	-9	4	5	0	0	0	0.9	10	13.9Y	W	3	12	7	12	5.1	82
TUCSON	788	927.2	1016.1	16.1	4.7	10.4	-0.1	23.3	19	-1.7	10	0	2	1.7	60	46	27	22	7	2	0	0	1.2	16	14.8	SE	18	14	4	13	5.1	71
WINSLOW	1492	853.4	1023.8	3.2	-9.4	-3.1	-3.4	13.3	31	-21.7	10	0	30	-7.2	77	9	-2	4	4	0	86	51	0.8	16	13.4	24	3	12	6	13	5.5	
YUMA	59	1009.8	1017.2	19.4	7.1	13.3	0.3	24.4	19	1.7	10	0	0	0.6	48	1	-9	1	2	0	0	0	1.7	36	9.8	W	8	13	9	9	5.0	73
ARKANSAS																																
FORT SMITH	136	1005.4	1022.7	2.3	-8.5	-3.1	-6.9	13.3	17	-23.3	11	0	31	-8.3	69	49	-11	20	9	0	330	203	0.9	35	13.9	N	26	10	8	13	5.7	57
LITTLE ROCK	78	1012.5	1022.5	4.6	-5.3	-0.4	-4.6	16.1	26	-15.6	19	0	27			69	-39	40	8	0	97	51	1.2	34	11.2	NW	26	13	5	13	5.4	63
CALIFORNIA																																
BAKERSFIELD	145	1002.4	[illegible]	11.4	4.9	8.2	-0.4	19.4	2	0.0	10	0	1	5.0	84	15	-10	13	4	0	0	0	0.5	31	8.0	30	3+	1	8	22	8.6	
BISHOP	1252	876.1		11.5	-4.9	3.3	0.5	20.0	18	-10.0	1	0	28			20	-11	16	4		66	25			14.8Y		8	14	4	13	5.0	
BLUE CANYON	1609	838.5	1017.4	9.2	0.5	4.8	2.4	20.6	18	-6.7	4	0	14	-7.2	50	111	-236	73	7		564	483	0.7	11	11.6	[illegible]	2					
EUREKA	13			12.8	4.3	8.6	0.1	15.6	26+	0.0	8	0	1			49	-140	21	9		0	0			16.1	NW	3	7	9	15	6.2	53
FRESNO	100	1008.8	1020.8	9.7	3.9	6.8	-0.6	18.9	21	-1.1	8	0	3	3.9	85	17	-29	13	4	0	0	0	0.7	12	13.0	26	2	0	9	22	8.7	28
LONG BEACH	8	1016.3	1017.5	20.1	8.4	14.3	1.9	29.4	17	2.8	10	0	0	6.7	67	46	-12	19	8	1	0	0	0.5	30	9.4	20	3	14	5	12	5.2	
LOS ANGELES	30	1013.5	1017.2	18.7	9.7	14.2	1.7	27.8	17	5.0	11	0	0	8.3	73	82	18	42	7	3	0	0	0.3	34	16.5Y	S	3	13	6	12	5.3	
LOS ANGELES	82			19.4	9.5	14.5	0.8	27.8	17	4.4	11	0	0			72	-4	32	8		0	0			6.7	E	6	10	11	10	5.6	67
MT SHASTA R	1077	894.7	1022.3	5.1	-6.4	-0.7	-1.6	11.1	19	-15.0	6	0	31	-6.7	69	27	-142	20	5		272	279	1.5	34								
OAKLAND	2	1020.0	1020.1	13.8	5.6	9.7	0.4	18.9	24	1.7	18+	0	0	4.4	74	27	-75	19	5	1	0	0	0.8	7	10.7	32	2	12	9	10	5.2	
RED BLUFF	104	1007.8	1020.7	12.2	2.0	7.1	-0.2	20.0	27+	-2.8	9	0	5	1.7	76	69	-45	55	6	0	0	0	1.3	35	11.6	SE	3	10	7	14	6.0	63
SACRAMENTO	5	1019.6	1020.6	10.2	2.9	6.6	-0.7	17.2	23	-2.2	9	0	3	2.2	77	30	-65	26	4	0	0	0	0.0	13	13.4	SE	2	7	4	20	7.3	[illegible]
SANDBERG R	1377	862.9	1017.6	7.3	1.7	4.5	-0.1	16.1	31	-3.3	9+	0	11			83	29	46	5		691	889			17.4		[illegible]					
SAN DIEGO	4	1016.3	1017.4	20.1	11.3	15.7	2.8	30.0	17	7.8	11+	0	0	8.3	67	60	12	33	9	0	0	0	0.4	28	12.1	SW	3	8	11	12	5.8	75
SAN FRANCISCO	2	1019.9	1019.7	12.2	4.5	8.3	-0.7	17.2	23	1.7	19+	0	0	3.9	75	56	-55	45	5	1	0	0	0.6	7	16.5	31	2	11	8	12	5.5	
SAN FRANCISCO	16			12.6	7.3	9.9	-0.6	18.9	23	4.4	18+	0	0			42	-73	29	4			0										
SANTA MARIA	72			18.0	3.1	10.6	0.3	26.7	19	-1.7	11+	0	9			35	-22	14	7		0	0						13	5	13	5.5	
STOCKTON	7	1020.0	1020.6	10.2	2.8	6.6	-0.4	18.3	22	-1.1	9	0	4	3.9	85	21	-53	13	5	0	0	0	1.0	16	13.0	15	2	3	5	23	8.3	
COLORADO																																
ALAMOSA	2297	769.4		0.5	-21.4	-10.4	-2.2	6.1	22	-30.0	12+	0	31			6	0	2	6		86	51	0.3	29				13	9	9	4.6	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days sunrise to sunset			Sky cover, tenths, sunrise to sunset	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, ice pellets: Total	Snow, ice pellets: Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	807.7	1019.	4.6	-10.4	-2.9	-1.0	13.3	20	-16.9	9	0	31	-13.3	51	7	-1	2	9	0	122	25	1.4	6	13.4	1	17	13	5	13	4.9	
DENVER	1610	833.4	1016.3	6.6	-9.8	-1.6	-0.4	15.5	20	-20.0	9	0	31	-11.7	54	4	-11	2	5	0	61	25	0.2	21	14.3	[illegible]	17	11	10	10	5.1	68
GRAND JUNCTION	1476	854.4	1023.8	2.2	-11.2	-4.5	-1.5	9.4	31	-20.6	11	0	31	-10.0	70	9	-7	4	6	0	107	51	0.8	9	8.5	SE	3	11	7	13	5.5	78
PUEBLO	1428	854.3	1016.7	7.3	-12.2	-2.4	-1.4	17.8	31	-21.7	10	0	31	-11.1	63	3	-6	2	4	0	46	25	0.9	7	16.5	W	7	15	6	10	4.5	65
CONNECTICUT																																
BRIDGEPORT	2	1010.2	1010.6	-1.3	-7.9	-4.6	-3.6	8.3	28	-16.1	18	0	31	-11.0	65	62	-7	37	10	0	262	102	5.1	29	17.9	28	10	12	8	11	5.3	
HARTFORD	52	1002.7	1009.	-2.7	-12.1	-7.4	-3.4	6.1	29	-20.0	29	0	31	-15.0	55	61	-22	33	10	0	508	330	2.4	29	15.2	SW	27	11	8	12	5.5	69
DELAWARE																																
WILMINGTON	23	1010.2	1013.7	-1.7	-10.7	-6.2	-6.2	6.7	28	-19.4	17	0	31	-11.1	66	55	-17	26	8	0	368	178	3.7	29	17.9	31	26	12	7	12	5.3	
DIST. OF COLUMBIA																																
WASHINGTON DULLES	88	1002.7	1015.	-0.7	-11.6	-6.1	-6.2	8.9	28	-20.0	12	0	31	-12.9	59	28	-44	8	9	0	234	127	2.8	28	14.8	30	16	12	8	11	5.3	
WASHINGTON NATIONAL	3	1012.9	1015.2	0.7	-8.1	-3.7	-5.7	9.4	28	-16.7	17	0	31	-11.1	57	39	-28	14	8	0	246	152	3.0	29	20.1	NW	28	13	8	10	5.3	67
FLORIDA																																
APALACHICOLA	6	1019.3	1019.8	12.7	1.5	7.1	-4.9	21.1	28+	-9.4	19	0	14	1.7	71	100	22	39	9	1	10	T	1.6	2	11.6	SE	3	8	8	15	6.5	55
DAYTONA BEACH	9	1017.3	1018.9	16.1	4.6	10.3	-4.3	25.6	28	-5.0	20	0	7	4.4	70	119	67	92	8	0	T	T	2.0	30	13.4	29	10	6	12	13	6.4	
FORT MYERS	5	1018.3	1018.6	19.4	7.1	13.3	-4.2	26.7	14	-1.1	20+	0	3	6.9	77	90	48	64	12	2	0	0	1.0	1	10.3	32	19+	9	12	10	5.4	
JACKSONVILLE	9	1018.3	1019.2	12.9	0.4	6.7	-5.9	23.3	28	-7.2	19	0	16	0.6	69	75	5	36	10	0	T	0	2.0	30	13.0	SW	28	7	7	17	6.8	[illegible]
KEY WEST	1	1017.6	1018.1	21.9	15.7	18.8	-2.7	26.1	14+	8.9	20+	0	0	13.3	71	34	-8	13	5	0	0	0	2.3	3	13.4	33	19	5	13	13	6.2	67
LAKELAND	65			16.6	5.6	11.1	-4.9	25.0	28	-3.9	19	0	4			55	-4	19	11		25	25						8	9	14	6.1	51
MIAMI	2	1018.3	1018.6	21.4	10.9	16.2	-3.4	28.3	28	-0.6	20	0	1	10.6	72	37	-18	22	5	0	0	0	1.5	32	14.3	31	19	10	9	12	5.9	
ORLANDO/MC CY AFB	29	1014.9	1018.7	16.6	4.0	10.3	-5.4	25.6	28+	-6.7	20	0	8	5.0	73	46	-12	25	10	1	T	0	1.7	31	13.4	30	13	7	8	16	6.6	
PENSACOLA	34	1015.9	1020.3	10.7	0.0	5.3	-5.8	22.2	28	-12.2	19	0	17	-2.2	62	121	10	55	11	1	64	T	2.5	36	14.3	33	18	8	12	11	5.6	
TALLAHASSEE	17	1017.6	1019.9	13.2	0.0	6.6	-4.8	23.9	28	-8.9	19	0	17	-1.1	64	163	68	61	10	2	T	0	1.6	36	8.0	2	29+	9	6	16	6.5	
TAMPA	6	1018.6	1019.0	16.3	5.0	10.7	-5.1	23.3	14	-3.3	20	0	6	5.0	70	70	11	29	12	3	5	T	1.3	1	12.5	34	19	4	10	17	7.0	47
WEST PALM BEACH	5	1017.6	1018.3	20.6	8.8	14.7	-3.9	27.2	28+	-2.8	20	0	3	9.4	72	89	23	75	5	1	T	0	1.5	30	13.9	30	19	9	6	16	6.3	
GEORGIA																																
ATHENS	244	988.2	1018.2	4.3	-5.2	-0.4	-6.8	14.4	27	-15.0	19	0	26	-7.8	62	105	-16	46	9	0	25	25	2.6	28	9.8	29	10	10	8	13	5.7	
ATLANTA	308	980.4	1018.5	3.6	-6.7	-1.5	-7.3	15.6	27	-17.2	14+	0	28	-9.4	58	89	-22	34	10	0	25	25	2.8	31	17.4	30	10	9	8	14	6.1	54
AUGUSTA	41	1012.9	1018.5	7.5	-3.7	1.9	-5.7	13.9	5	-11.7	17	0	24	-5.6	61	93	6	27	10	1	13	T	2.4	28	13.4	28	10	11	5	15	6.0	
COLUMBUS	117	1005.4		8.2	-3.1	2.6	-5.7	18.3	28	-14.4	19	0	21	-4.4	65	105	-5	27	11	1	36	25	1.9	32	9.4	34	28+	7	8	16	6.5	
MACON	108	1006.1	1019.4	8.3	-3.1	2.7	-6.1	15.6	5	-15.0	19	0	23	-3.9	67	94	1	25	11	1	76	51	2.2	31	13.0	SE	14	8	6	17	6.7	51
ROME	194			4.1	-7.5	-1.7	-6.8	15.0	27	-18.3	17	0	28			86	-40	33	12		43	51										
SAVANNAH	14	1017.3	1019.1	9.8	-1.1	4.4	-5.6	18.9	28	-8.9	19+	0	19	-3.9	60	80	6	40	10	1	51	25	2.4	29	16.1	W	10	7	7	17	6.6	58
HAWAII																																
HILO	9	1013.2	1014.6	29.3	17.2	23.3	1.5	32.2	27	13.9	24	1	0	16.1	68	31	-159	20	7	0	0	0	1.7	16	10.3	SE	16+	16	12	3	3.5	68
HONOLULU	2	1014.2	1014.5	27.6	18.7	23.2	0.8	28.3	29+	15.0	22	0	0	17.8	72	13	-99	3	10	0	0	0	1.6	19	10.3	S	16	6	21	4	4.9	61
KAHULUI	15	1012.2	1014.4	27.4	16.7	22.1	0.0	31.1	11	13.9	24	0	0			3	-88	2	3	0	0	0	0.8	13	11.2	S	31+	20	8	3	3.1	80
LIHUE	31	1009.5	1014.6	26.2	19.3	22.8	1.0	27.8	10+	16.1	28	0	0	18.3	78	74	-84	34	16	0	0	0	1.9	20	10.3	SW	31	8	14	9	5.4	61
IDAHO																																
BOISE	865	921.8	1026.9	-3.3	-11.2	-7.2	-5.6	5.0	19	-25.6	8	0	31	-10.0	80	17	-21	12	7	0	183	127	1.5	30	8.9	SE	19	1	2	28	9.1	18
LEWISTON	431			1.3	-4.9	-1.8	-1.3	12.8	18	-13.9	9	0	24			9	-24	5	8		89	51			13.4Y		18	2	3	26	8.7	
POCATELLO	1358	865.9	1025.7	-3.4	-13.2	-8.3	-3.4	5.6	17	-26.7	11	0	31	-11.1	78	18	-9	10	9	0	262	152	1.0	24	13.4	SW	3	2	6	23	8.2	42
ILLINOIS																																
CAIRO	96			-1.4	-9.2	-5.3	-7.7	6.1	26	-18.3	17	0	31			45	-56	19	12		300	152			13.9	NW	28					49
CHICAGO O HARE	201	991.5	1017.4	-7.2	-16.5	-11.8	-6.8	-1.1	26+	-27.2	16	0	31	-17.2	64	14	-29	5	13	0	183	127	3.8	26	15.6	27	28+	10	3	18	6.4	
CHICAGO MIDWAY	185	993.9	1018.0	-7.6	-16.7	-12.2	-7.9	-1.1	24	-28.3	16	0	31	-16.7	67	18	-29	10	13	0	505	229	3.6	26	14.3	W	26	8	7	16	6.3	46
MOLINE	177	997.3	1020.2	-8.3	-18.2	-13.2	-7.4	-1.1	24+	-30.0	17	0	31	-18.9	62	22	-20	5	12	0	312	127	4.0	28	17.0	NW	28+	10	6	15	6.0	64
PEORIA	199	994.6	1020.0	-8.1	-17.9	-13.0	-8.4	-1.7	26+	-31.7	17	0	31	-17.8	67	31	-15	8	13	0	414	178	3.0	27	19.2	NW	28	9	5	17	6.3	53
ROCKFORD	221	990.2	1018.8	-9.3	-19.7	-14.5	-7.9	-1.1	26	-30.0	16	0	31	-18.9	67	15	-30	3	12	0	224	127	3.5	28	14.3	28	26+	9	10	12	6.0	
SPRINGFIELD	179	997.6	1021.3	-6.8	-17.4	-12.1	-9.1	1.7	26	-29.4	17	0	31	-15.0	77	38	-6	14	13	0	536	279	3.1	27	16.1	NW	28	10	4	17	6.4	54
INDIANA																																
EVANSVILLE	114	1006.1	1021.0	-4.0	-15.1	-9.6	-9.9	5.0	28+	-29.4	17	0	31	-14.4	66	49	-38	13	15	0	541	254	1.7	29	15.2	NW	28	10	5	16	6.3	56

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy 8 10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
INDIANA																																
FORT WAYNE	241	985.4	1017.4	-8.0	-17.3	-12.7	-8.9	-1.7	25+	-26.7	17	0	31	-16.1	74	13	-51	5	10	0	330	203	4.8	25	22.4	W	26	10	3	18	6.6	64
INDIANAPOLIS	241	988.2	1019.1	-6.9	-17.2	-12.1	-9.8	-0.6	28+	-28.9	17+	0	31	-15.0	80	38	-35	13	16	0	531	279	2.7	26	19.7	W	26	10	3	18	6.2	52
SOUTH BEND	236	986.8	1016.4	-6.6	-15.4	-10.9	-6.5	-0.6	26+	-26.7	17	0	31	-14.4	74	41	-19	10	19	0	945	686	4.0	25	15.6	29	29	4	6	21	7.5	
IOWA																																
BURLINGTON	211			-7.4	-17.9	-12.7	-7.6	-0.6	26+	-30.6	17	0	31	-17.2	68	14	-26	3	8	0	257	152	3.0	29	15.6	32	26	11	4	16	6.1	
DES MOINES	286	984.4	1021.4	-6.7	-17.7	-12.2	-5.2	1.7	13	-27.8	16	0	31			13	-16	4	9	0	193	76	3.1	31	16.1	NW	28	5	11	15	6.6	48
DUBUQUE	322	977.7		-11.1	-20.8	-15.9	-7.9	-2.2	23	-32.2	16	0	31			20	-24	5	14		244	152										
SIOUX CITY	334	980.0	1022.6	-6.9	-18.8	-12.9	-5.1	6.1	23	-28.9	16	0	31	-17.2	73	7	-10	3	6	0	104	25	3.0	31	21.9	NW	26	6	10	15	6.6	61
WATERLOO	265	986.8	1021.1	-11.3	-24.4	-17.8	-9.1	-2.8	24+	-33.3	17	0	31	-22.8	63	9	-16	3	9	0	124	102	3.7	30	17.4	32	29	8	3	15	5.6	
KANSAS																																
CONCORDIA	448	966.5	1022.2	-1.7	-13.0	-7.3	-4.2	9.4	27	-22.2	16+	0	31	-10.6	78	16	-1	5	10	0	231	178	1.4	30	17.0	NW	28	12	8	11	5.2	72
DODGE CITY	787	926.5	1021.1	1.4	-10.7	-4.6	-3.9	16.1	31	-19.4	10	0	31	-10.6	68	11	-1	5	8	0	140	76	1.4	30	18.8	N	17	13	8	10	4.9	75
GOODLAND	1114	887.9	1020.0	2.4	-12.5	-5.1	-2.6	13.3	31+	-20.6	10+	0	31	-10.6	71	10	0	5	7	0	127	76	2.0	29	13.0	33	19+	13	7	11	5.0	
TOPEKA	267	989.5	1023.1	-3.2	-15.6	-9.3	-7.1	7.2	27	-26.1	11	0	31	-13.9	70	23	-2	8	12	0	345	178	1.4	30	15.2	N	26+	12	6	13	5.7	58
WICHITA	403	972.2	1022.4	1.9	-10.3	-4.2	-3.8	13.9	27	-18.9	9	0	31	-10.6	65	14	-8	6	9	0	91	51	1.4	33	18.8	N	26	13	4	14	5.4	61
KENTUCKY																																
COVINGTON	265	985.4	1018.8	-5.7	-16.6	-11.1	-10.6	1.7	26	-31.7	18	0	31			48	-37	12	16	0	770	305	3.0	26	14.3	30	28+	7	8	16	6.4	
LEXINGTON	294	982.1	1019.3	-3.3	-12.4	-7.9	-8.4	5.6	28	-24.4	17	0	31	-12.9	70	58	-42	15	15	0	470	203	2.5	23	13.0	25	26	7	7	17	6.7	
LOUISVILLE	145	1001.4	1019.9	-2.8	-12.1	-7.4	-8.2	5.6	26	-25.0	17	0	31	-12.2	71	59	-30	19	18	0	498	229	2.5	27	13.4	W	26	8	4	19	6.8	52
LOUISIANA																																
ALEXANDRIA	28	1017.3	1021.4	9.1	-1.6	3.8	-4.9	20.6	27	-10.6	10	0	22	-1.1	73	134	15	43	7	1	43	51	1.3	36	9.4	33	18+	8	6	17	6.7	
BATON ROUGE	20	1018.6	1021.2	10.8	0.1	5.4	-5.1	21.7	9	-8.9	19	0	18	0.0	7[illegible]	165	53	52	13	0	T	0	1.6	1	11.6	35	18	8	9	14	6.5	
LAKE CHARLES	3	1020.0	1021.1	11.0	1.3	6.2	-5.1	22.8	28	-7.8	10	0	13	0.6	70	124	21	69	11	2	T	0	2.1	5	13.0	36	18	8	4	19	6.7	
NEW ORLEANS	1	1019.6	1020.6	11.4	1.2	6.3	-5.3	22.8	6	-7.2	19	0	13	0.0	65	143	28	43	9	0	T	0	1.8	1	13.4	21	9	7	8	16	6.7	51
SHREVEPORT	77	1012.2	1021.8	8.9	-3.1	2.9	-5.5	20.6	27	-11.7	10	0	20	-2.8	72	76	-26	21	9	2	137	127	0.9	36	11.2	34	18+	10	4	17	6.1	54
MAINE																																
CARIBOU	190	980.7		-8.7	-20.3	-14.4	-2.6	0.6	25	-31.7	15+	0	31			87	35	38	12		993	1473						7	8	16	6.7	
PORTLAND	13	1004.7	1007.[illegible]	-3.7	-15.7	-9.7	-3.8	6.7	10	-23.9	13	0	31	-15.0	68	164	78	90	11	1	894	762	2.5	30	16.5	SE	26	12	[illegible]	11	5.4	74
MARYLAND																																
BALTIMORE	45	1008.8	1014.6	-0.6	-9.6	-5.1	-5.8	8.9	28	-18.9	17	0	31	-12.2	58	35	-39	13	8	0	216	102	3.0	30	19.7	W	10	13	6	10	4.9	59
MASSACHUSETTS																																
BLUE HILL OBS R	192			-3.2	-11.7	-7.4	-4.2	8.3	10	-20.0	18	0	31			123	19	51	11		688	660			27.7	SSE	28					65
BOSTON	5	1007.5	1008.6	-1.2	-8.5	-4.8	-3.3	8.3	10	-16.1	18	0	31	-12.2	58	112	18	44	11	1	589	457	4.2	28	17.4	W	11+	14	7	10	5.1	67
WORCESTER	301	969.2		-4.6	-13.0	-8.8	-4.1	3.9	28+	-21.7	18	0	31	-15.6	60	70	-15	32	8	0	551	533	4.0	29	17.4	29	28	11	7	13	5.7	
MICHIGAN																																
ALPENA	210	985.1	1011.7	-7.7	-16.6	-12.1	-4.2	0.6	24	-28.3	9	0	31	-15.6	72	18	-24	9	11	0	439	457	2.8	27	11.2	NW	26	7	7	17	7.0	49
DETROIT	189			-6.2	-12.4	-9.3	-5.7	-0.6	25	-21.1	28	0	31							0			4.5	25	13.0	21	28+					
DETROIT METRO	193	989.2	1014.5	-6.3	-15.0	-10.7	-6.6	0.0	5	-23.3	17	0	31	-14.4	72	25	-24	11	14	0	373	229	4.0	26	19.2	W	26	7	6	18	6.8	49
FLINT	235	984.1	1013.4	-8.1	-15.4	-11.7	-6.3	-2.8	25+	-24.4	16	0	31	-15.0	74	14	-29	4	14	0	396	203	4.3	26	15.6	23	26	6	4	21	7.5	
GRAND RAPIDS	239	983.7	1014.4	-6.3	-15.2	-10.7	-5.8	-1.1	24	-25.6	9	0	31	-13.9	74	40	-9	11	24	0	663	279	3.6	25	16.5	NW	28	2	6	23	8.1	33
HOUGHTON LAKE	350	968.2	1012.3	-8.6	-17.4	-12.9	-4.8	-2.2	24+	-28.3	9	0	31	-15.0	79	15	-22	3	18	0	414	279	3.1	28	10.3	28	31+	2	10	19	7.7	
LANSING	256	980.7	1014.1	-7.3	-16.0	-11.6	-6.4	-1.7	24	-27.2	9	0	31	-13.9	81	24	-24	9	19	0	437	305	4.1	26	19.7	W	26	4	6	21	7.8	43
MARQUETTE J	206			-8.6	-15.8	-12.2	-4.6	-0.6	23	-24.4	9	0	31			26	-13	6	16		424	533			10.7	NW	26					60
MUSKEGON	191	990.5	1014.7	-6.8	-12.9	-9.8	-5.4	-1.7	25+	-22.2	9	0	31	-12.8	76	74	17	13	21	0	1537	762	3.5	28	13.4	30	28+	0	3	28	9.3	
SAULT STE MARIE	220	983.1	1010.9	-9.9	-18.7	-14.3	-4.4	-2.8	24	-34.4	9	0	31	-16.7	80	69	20	20	22	0	1166	914	2.0	29	12.5	W	30+	6	5	20	7.6	47
MINNESOTA																																
DULUTH	435	961.7	1016.8	-13.1	-22.6	-17.9	-4.8	-1.7	23	-37.2	9	0	31	-22.8	65	9	-20	2	13	0	224	254	3.4	30	14.8	NW	26	8	7	16	6.5	51
INTERNATIONAL FALLS	359	971.6	1018.2	-15.5	-26.4	-21.0	-4.3	-3.3	23	-40.0	9	0	31	-25.0	70	17	-5	4	15	0	284	279	2.5	29	11.2	30	26	4	5	19	7.3	
MINNEAPOLIS	254	987.5	1020.3	-12.1	-23.2	-17.6	-6.6	0.6	23	-35.6	9	0	31	-22.8	62	17	-2	6	10	0	340	279	2.9	28	16.5	NW	26	6	14	11	5.7	59
ROCHESTER	395	968.5	1019.7	-13.0	-24.6	-18.8	-8.2	-1.1	23	-34.4	9	0	31	-22.2	74	9	-7	5	5	0	234	178	4.7	29	17.4	30	27	7	9	15	6.4	
ST CLOUD	313	980.4	1020.8	-13.1	-24.9	-19.0	-6.2	1.1	23	-41.7	9	0	31			15	-5	3	11		305	203						10	10	11	5.7	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature												Precipitation							Wind					No. of days sunrise to sunset				
												No. of days							No. of days		Snow Ice pellets				Fastest mile 1.6 kilometers							
		Station	Sea level	Average max mum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							
MISSISSIPPI																																
JACKSON	94	[illegible]	[illegible]	7.2	-3.6	1.8	-6.6	17.2	27	-14.4	19	0	24	-3.3	71	157	42	62	13	1	147	76	1.1	36	12.5	34	18	8	6	17	6.4	53
MERIDIAN	88	1010.2	1021.6	7.3	-4.3	1.5	-6.8	18.9	27	-15.6	19	0	26	-4.4	68	142	33	58	13	1	127	76	1.3	32	[illegible]	31	28+	8	5	18	6.5	
MISSOURI																																
COLUMBIA REGIONAL	270	987.5	1021.6	-5.2	-15.2	-10.2	-8.7	3.9	27	-27.8	17	0	31	-13.9	75	37	-3	12	12	0	505	229	2.2	29	20.1	NW	28	10	3	18	6.5	46
KANSAS CITY	309	983.4	1022.3	-4.2	-14.1	-9.1	-6.8	5.6	27	-25.0	16	0	31	-13.3	73	29	-3	7	12	0	371	203	1.4	29	15.6	NW	28	10	6	15	5.9	59
ST JOSEPH	247			-3.8	-15.6	-9.7	-6.4	5.6	27	-24.4	16+	0	31			20	-8		9		276											
ST LOUIS	163	1000.0	1021.6	-4.6	-14.2	-9.4	-9.0	4.4	27	-25.6	16	0	31	-12.2	81	60	13	16	16	0	607	254	2.9	29	18.3	N	26	11	3	17	6.0	59
SPRINGFIELD	284	973.9	1021.7	-1.6	-13.0	-7.3	-7.8	6.7	27	-23.9	16	0	31	-11.1	72	39	-3	10	11	0	442	229	2.9	27	15.2	NW	28	10	6	15	5.8	47
MONTANA																																
BILLINGS	1087	891.3	1020.6	-2.6	-13.1	-7.8	-2.2	7.2	20+	-23.9	8+	0	31	-14.4	60	37	19	12	15	0	409	330	3.4	25	16.3	NW	[illegible]	7	5	19	7.3	35
GLASGOW	696	936.0	1023.2	-10.3	-21.8	-16.1	-3.4	1.1	18+	-36.1	28	0	31	-19.4	73	11	1	2	12	0	196	127	1.2	34	14.8	1	7	8	7	16	5.5	
GREAT FALLS	1116	888.9	1022.0	-0.1	-11.4	-5.8	0.6	11.7	18	-28.3	2	0	30	-11.7	64	26	4	8	12	0	353	229	4.0	23	17.0	SW	18	1	5	25	8.5	[illegible]
HAVRE	788	925.2	1022.4	-6.1	-18.8	-12.4	-0.9	3.3	26+	-31.1	15	0	31	-15.6	76	20	7	6	8	0	279	152	1.6	24	13.0	SW	25+	5	4	22	7.9	38
HELENA	1167	883.2	1024.6	-2.5	-13.1	-7.8	-0.1	10.6	18	-28.3	5	0	30	-12.2	66	17	3	8	8	0	351	178	1.7	29	15.2	NW	7	2	6	23	8.4	36
KALISPELL	904	915.0	1025.3	-3.4	-10.6	-7.0	0.2	6.7	18	-22.2	2	0	31	-9.4	8[illegible]	21	-18	10	8	0	224	178	0.5	35	13.0	3	15	4	1	26	8.5	
MILES CITY	801	923.8	1022.3	-7.5	-19.6	-13.5	-4.3	2.2	22	-32.2	8	0	31	-17.2	72	17	5		9	0	163		2.1	32								
MISSOULA	972	908.6	1025.5	-2.7	-12.2	-7.4	-1.2	8.3	18	-23.3	2	0	31	-9.4	86	17	-13	11	7	0	262	178	0.1	31	11.2	E	15	2	4	25	8.7	26
NEBRASKA																																
GRAND ISLAND	561	952.3	1021.8	-1.6	-14.3	-7.9	-2.6	9.4	27+	-26.1	16	0	31	-13.3	68	11	-3	5	7	0	137	102	2.1	31	15.6	35	8	11	11	9	5.2	
LINCOLN	359	977.3	1022.5	-3.9	-17.1	-10.5	-5.1	5.6	27	-28.3	16	0	31	-14.4	73	16	0	8	6	0	221	127	2.0	32	20.1	N	8	7	12	12	5.9	65
NORFOLK	471	962.8	1021.7	-4.7	-17.0	-10.8	-3.6	7.8	23	-28.9	16	0	31	-17.8	58	7	-9	2	8	0	107	51	3.5	32	20.6	34	19+	10	5	16	5.7	
NORTH PLATTE	846	919.1	1021.7	-0.8	-16.4	-8.6	-3.8	11.1	20	-25.0	16	0	31	-14.4	66	5	-7	3	5	0	64	51	1.8	32	19.2	NW	19	9	6	16	6.1	64
OMAHA	298	985.1	1022.6	-4.4	-16.4	-10.4	-5.2	5.0	27	-29.4	16	0	31	-13.9	75	24	4	6	9	0	366	127	2.1	33	20.1	NW	27	5	14	12	6.3	57
SCOTTSBLUFF	1206	879.1	1020.7	1.2	-13.7	-6.2	-2.3	11.7	31	-27.2	5	0	31	-12.8	64	13	5	10	5	0	206	127	2.6	32	16.5	33	17	7	7	17	6.9	
VALENTINE	789	924.5		-4.3	-19.0	-11.6	-5.2	7.8	21	-28.9	16	0	31			9	1	4	9		198	102	2.5	31	23.2	N	7	9	10	12	5.8	60
NEVADA																																
ELKO	1539	847.3	1023.8	3.2	-12.1	-4.4	0.5	10.6	21	-22.2	6	0	30	-11.7	60	8	-22	4	3	0	109	76	0.4	23	11.2	17	2	12	5	14	5.4	
ELY	1906	809.3	1022.5	4.8	-15.8	-5.5	-0.8	13.3	18	-25.6	9+	0	31	-16.7	47	10	-6	8	3	0	150	127	2.1	19	15.6	SE	3+	11	8	12	5.4	73
LAS VEGAS	659	941.8	1019.7	14.4	0.7	7.6	0.8	21.7	18+	-5.0	10	0	15	-5.6	44	5	-6	2	3	0	0	0	0.9	25	11.2	SE	3	17	6	8	4.2	86
RENO	1342	868.6	1022.0	7.4	-7.1	0.2	0.2	15.0	31	-14.4	9	0	28	-5.0	75	17	-14	9	3	0	18	T	0.1	5	14.3	NW	3	11	7	13	5.6	62
WINNEMUCCA	1311	872.0	1023.9	5.9	-11.7	-2.8	-0.7	13.3	31	-21.1	9	0	30	-8.9	66	9	-16	5	3	0	114	76	0.1	9	16.5	NW	3	12	9	10	5.0	68
NEW HAMPSHIRE																																
CONCORD	104	994.9	1008.2	-5.2	-18.6	-11.9	-5.6	1.1	28	-26.7	28	0	31	-15.6	73	55	-13	22	10	0	942	660	2.4	29	13.4	NW	8	10	10	11	5.4	72
MT WASHINGTON OBS	1909			-15.2	-23.9	-19.6	-5.0	-5.0	10	-34.4	17	0	31			282	152	67	24	1	2306	635			63.9Y	SE	10	5	4	22	7.9	31
NEW JERSEY																																
ATLANTIC CITY	20	1010.5	1012.9	-2.1	-11.6	-6.8	-7.2	8.3	10	-23.3	17	0	31	-12.2	66	88	-3	61	10	0	198	76	4.1	28	19.7	29	28	13	7	11	5.1	56
ATLANTIC CITY	3			-1.1	-7.4	-4.2	-5.8	11.1	10	-15.6	17	0	31			63	-23	37	9						19.2	NW	28					
NEWARK	2	1010.8	1011.9	-2.4	-10.0	-6.2	-5.8	7.2	28	-18.9	17	0	31	-11.1	68	39	-35	18	9	0	274	127	3.4	28	15.6	28	28+	11	8	12	5.7	
TRENTON U	17			-1.9	-9.6	-5.7	-5.8	8.3	28	-20.0	17	0	31			59	-11	33	8		363	178			19.2	NW	28	14	5	12	5.0	60
NEW MEXICO																																
ALBUQUERQUE	1619	838.1	1020.0	5.3	-7.8	-1.2	-3.0	11.7	28	-20.0	10	0	29	-7.2	66	22	15	10	4	1	213	127	1.7	1	15.2	E	30	15	5	11	4.7	64
CLAYTON	1515			7.2	-9.4	-1.1	-1.7	15.6	22	-20.0	9	0	31			5	-2	3	4		97	51										
ROSWELL	1112	890.6	1017.9	11.4	-4.1	3.7	0.3	20.6	26	-16.1	9	0	25	-7.2	52	2	-8	1	3	0	10	T	0.2	27	13.0	NW	3	12	10	9	5.1	73
NEW YORK																																
ALBANY	84	1000.0	1011.2	-4.1	-14.2	-9.2	-3.3	4.4	4	-26.1	28	0	31	-13.3	70	38	-18	17	10	1	561	254	3.4	28	17.0	W	28	7	9	15	6.6	51
BINGHAMTON	485	949.9	1011.5	-7.7	-14.6	-11.1	-5.6	-0.6	28+	-24.4	29	0	31	-14.4	76	43	-16	14	22	0	579	330	4.1	26	18.8	SE	10	1	5	25	8.3	47
BUFFALO	215	985.4	1012.3	-6.8	-13.4	-10.1	-5.5	-1.1	24	-21.7	29	0	31	-12.8	82	86	12	19	29	0	1735	965	6.2	23	22.4	SW	28	0	4	27	9.1	24
NEW YORK U	40	1008.5	1011.6	-2.4	-8.7	-5.5	-5.6	6.7	28	-18.9	17	0	31	-12.2	59	57	-12	33	8	0	330	152	3.0	31	11.6	NNW	8					66
NEW YORK KENNEDY	4	1011.2	1011.8	-2.2	-8.9	-5.6	-5.2	5.6	28	-18.3	17	0	31	-10.6	68	68	-1	40	10	0	340	178	5.0	30	17.4	28	10	11	10	10	5.0	
NEW YORK LA GUARDIA	3	1010.8	1011.9	-2.4	-8.4	-5.4	-5.4	6.7	28	-18.3	17	0	31	-12.8	57	51	-22	30	10	0	277	127	4.1	29	24.1	SW	28	12	9	10	5.1	
ROCHESTER	167	990.9	1012.1	-5.9	-12.4	-9.2	-4.7	1.7	24	-21.1	18	0	31	-12.8	77	38	-19	11	22	0	767	432	5.5	24	15.6	SW	10	1	7	23	8.6	27

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure: Station	Pressure: Sea level	Temperature: Average max mum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Ice pellets: Total	Maximum depth on ground	Wind: Resultant speed	Resultant direction	Fastest mile 1.6 kilometers: Speed	Direction	Date	No of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
NEW YORK																																
SYRACUSE	125	995.9	1011.4	-5.3	-12.8	-9.1	-4.4	0.6	28+	-25.6	18	0	31	-17.8	75	47	-21	11	22	0	1328	457	4.2	25	19.7	SW	11	0	5	26	8.8	34
NORTH CAROLINA																																
ASHEVILLE	652	937.7	1016.6	1.7	-9.7	-4.0	-7.3	9.4	28	-20.6	17	0	31	-10.6	61	53	-33	29	7	0	302	152	3.0	34	13.0	35	16	12	8	11	5.3	60
CAPE HATTERAS R	2	1015.2	1015.8	6.4	-2.2	2.1	-5.3	18.3	10	-10.6	17	0	22	-3.9	68	115	7	46	10	0	0	0	2.9	32	20.3	23	27+	13	5	13	5.1	53
CHARLOTTE	229	988.8	1017.3	3.9	-6.1	-1.1	-6.7	13.3	27	-15.0	17	0	27	-8.9	53	69	-20	35	9	0	86	51	1.3	28	13.9	SW	10	12	4	15	5.6	57
GREENSBORO	273	983.7	1015.6	2.3	-8.2	-2.9	-6.7	10.0	27+	-18.9	17	0	31	-8.9	66	58	-24	33	9	0	206	102	2.2	28	15.2	NW	26	13	7	11	5.3	66
RALEIGH	132	1000.3	1016.6	3.0	-9.1	-3.0	-7.7	11.1	27	-18.3	17	0	31	-10.0	64	72	-10	38	8	0	53	51	2.0	28	12.5	24	1	11	7	13	5.5	58
WILMINGTON	9	1015.9	1017.2	7.4	-3.2	2.1	-5.9	18.9	10	-11.7	17	0	23	-5.0	64	75	-6	18	11	0	15	25	2.3	31	15.6	NW	29+	11	6	14	5.6	62
NORTH DAKOTA																																
BISMARCK	502	958.7	1023.0	-12.6	-24.7	-18.7	-5.4	0.6	22	-40.6	9	0	31	-21.7	72	14	1	5	13	0	211	178	2.8	30	17.0	NW	27	8	8	15	6.3	48
FARGO	273	985.8	1021.3	-14.8	-24.4	-19.6	-5.1	-1.1	23	-37.2	16	0	31	-23.3	70	17	4	5	10	0	320	203	3.3	29	19.2	N	26	8	8	15	6.6	65
WILLISTON	579	949.5	1023.1	-11.2	-24.7	-17.9	-4.8	1.1	22	-36.1	28	0	31	-21.1	76	25	10	12	13	0	282	279	2.3	30	15.6	NW	25	5	10	16	6.8	44
OHIO																																
AKRON	368	968.8	1015.7	-6.6	-16.4	-11.4	-8.3	0.6	10	-27.8	17	0	31	-15.0	74	31	-37	7	16	0	495	330	4.0	24	12.1	24	10	3	8	20	7.8	
CINCINNATI ABBE OB	232			-4.2	-14.6	-9.3	-9.4	2.2	26	-26.1	18+	0	31			34	-52	12	10						12.1	W	26					43
CLEVELAND	237	985.4	1016.1	-6.9	-16.4	-11.7	-8.8	-1.7	25+	-27.2	17	0	31	-15.0	76	33	-32	7	22	0	536	381	4.2	23	15.6	SW	26	3	5	23	8.2	
COLUMBUS	247	986.1	1017.9	-7.1	-15.9	-11.4	-9.4	-0.6	26	-28.3	17	0	31	-15.7	64	40	-33	11	16	1	460	305	3.3	24	16.1	W	26	6	6	19	7.1	39
DAYTON	303	979.7	1017.8	-6.5	-16.2	-11.3	-9.2	0.6	26	-29.4	17	0	31	-15.0	72	42	-28	11	15	0	513	356	3.8	25	18.8	W	26	8	6	17	6.5	49
MANSFIELD	395			-8.6	-17.4	-12.9	-10.7	-2.2	24	-28.9	17	0	31	-15.0	84	20	-40	6	14	0	630	305	4.9	24	14.3	28	28	4	7	20	7.8	
TOLEDO	204	989.2	1015.9	-7.9	-17.0	-12.4	-8.4	-1.7	26+	-26.1	17+	0	31	-16.1	73	33	-20	19	15	0	437	229	4.0	25	18.8	W	28	7	9	15	6.7	49
YOUNGSTOWN	359	970.2	1015.1	-7.6	-16.6	-12.1	-8.6	-1.1	10	-26.1	17	0	31	-16.1	72	39	-36	7	17	0	559	381	4.1	24	13.0	27	28+	1	5	25	8.4	
OKLAHOMA																																
OKLAHOMA CITY	392	973.6	1021.9	4.5	-7.7	-1.6	-4.2	15.0	27	-19.4	10	0	29	-8.3	67	8	-20	4	7	0	71	76	0.7	34	16.5	N	18	11	7	13	5.5	63
TULSA	198	997.0	1022.5	3.0	-8.7	-2.8	-5.4	16.1	27	-21.1	11	0	31	-8.9	69	36	0	15	8	0	267	152	0.4	32	16.5	N	28	12	6	13	5.4	60
OREGON																																
ASTORIA	2	1020.3	1021.0	8.2	0.6	4.4	-0.4	12.9	18	-6.7	9	0	16	1.1	78	81	-166	17	15	1	T	0	1.9	8	9.4	22	18+	7	5	19	6.8	
BURNS	1265			-1.2	-13.1	-7.1	-3.3	7.2	19	-24.4	8	0	31			18	-27	14	4		178	152			9.4Y	NW	5	10	3	18	6.5	
EUGENE	109	1007.8	1021.7	9.4	-1.9	3.8	-0.3	16.1	18	-9.4	9	0	17	0.6	84	28	-163	12	9	0	0	0	0.2	15	9.8	36	5	10	2	19	6.7	
MEDFORD	396	973.9	1022.9	6.4	-4.2	1.1	-1.4	12.8	25	-10.6	9	0	30	-2.2	87	30	-60	14	7	0	25	T	0.2	34	9.4	13	25	9	4	18	6.9	
PENDLETON	452	969.9	1025.8	-0.6	-5.7	-3.2	-3.2	15.0	18	-18.9	8	0	25	-5.0	88	12	-28	5	5	0	79	76	0.4	1	7.2	32	12	2	1	28	8.8	
PORTLAND	6	1021.3	1022.6	6.1	-2.1	2.1	-1.3	13.3	19+	-8.3	8	0	22	-1.7	80	27	-122	15	12	0	T	T	2.4	11	13.4	SE	25	10	2	19	6.5	51
SALEM	60	1014.2	1021.6	8.8	-2.5	3.2	-0.6	16.7	18	-10.6	9	0	20	-1.1	76	22	-153	8	9	0	T	T	0.0	36	8.0	5	5	9	5	17	6.5	
SEXTON SUMMIT R	1169	885.5	1019.9	7.6	1.3	4.5	3.1	16.1	17	-5.6	6+	0	13	-4.4	60	26	-140	9	9		246	102			13.9	13	6					
PACIFIC AREA																																
GUAM TAGUAC R	110			28.4	20.9	24.7	-0.5	29.4	29+	13.3	29	0	0			79	-52	27	17		0	0			11.6	E	9	1	11	19	7.8	72
JOHNSTON	2	1011.9	1012.2	27.4	22.7	25.1	0.2	28.9	17+	21.7	23+	0	0	20.0	74	12	-54	3	10	0	0	0	4.2	9	16.1	E	1	15	14	2	4.1	80
KOROR R	29	1005.4		30.8	24.2	27.5	0.2	31.7	28+	22.2	11	0	0			132	-142	44	15	0	0	0	3.2	7	8.5	SE	20+	1	5	25	8.5	60
KWAJALEIN	2	1008.8		29.6	25.1	27.3	0.0	30.6	28+	23.3	10	0	0			12	-83	8	7	0	0	0	6.8	6	11.2	4	26	1	4	26	8.7	
MAJURO	3	1008.5		29.1	24.6	26.8	-0.3	30.6	29	22.8	14	0	0			61	-167	31	9		0	0	5.8	6	11.2	E	28	0	6	25	9.3	62
PAGO PAGO	4	1007.8	1008.1	31.1	24.3	27.7	0.9	32.2	17+	21.7	7	3	0	23.9	80	185	-126	72	19	1	0	0	2.1	7	17.0	E	29	2	12	17	7.5	45
PONAPE R	37			30.0	24.4	27.2	0.2	31.7	30+	22.8	30+	0	0			113	-185	38	20	0	0	0			11.6	NE	9	0	6	25	8.9	37
TRUK MOEN ISLAND	2	1008.8		29.7	25.1	27.4	0.2	31.1	4	23.3	28+	0	0			164	-55	133	16	0	0	0	5.3	6	13.0	NE	1	0	2	29	9.7	32
WAKE	3	1013.2	1013.5	27.1	22.2	24.6	-0.4	30.6	22	20.6	28	0	0	19.4	76	11	-17	6	8	0	0	0	3.3	3	13.4	NE	26	14	9	8	4.9	71
YAP	13	1007.5		29.8	23.5	26.7	-0.2	31.1	2	21.1	6	0	0			100	-114	36	15	0	0	0	4.2	8	9.4	SE	20	0	9	22	8.5	72
PENNSYLVANIA																																
ALLENTOWN	118	998.6	1013.2	-3.2	-11.7	-7.4	-5.1	6.1	28	-20.6	17	0	31	-12.2	67	36	-41	18	7	0	295	178	4.1	27	20.6	27	28	11	7	13	5.9	
ERIE	223	984.5	1014.6	-6.9	-14.8	-10.8	-7.0	-0.6	10	-23.3	29+	0	31	-13.3	81	27	-36	6	27	0	737	483	4.8	23	17.4	26	28	0	6	25	8.5	
HARRISBURG	103	1000.7	1014.0	-2.9	-10.3	-6.6	-5.6	4.4	28	-19.4	17	0	31	-13.9	56	37	-29	15	9	0	310	127	3.6	29	14.3	NW	28	11	6	14	5.7	71
PHILADELPHIA	2	1012.5	1013.6	-2.4	-10.9	-6.7	-6.8	6.7	28	-20.0	17	0	31	-13.9	56	66	-5	36	7	0	399	152	4.0	29	20.1	NW	28+	10	9	12	5.4	68
PITTSBURGH	347	969.9	1016.	-7.0	-15.9	-11.4	-9.3	1.1	28	-27.2	17	0	31			52	-19	11	22	0	673	305	3.9	25	15.6	28	28	2	5	24	8.4	21
SCRANTON	283	976.6	1012.5	-5.7	-13.3	-9.4	-6.1	2.8	28	-23.3	17	0	31	-13.9	77	22	-29	7	11	0	399	203	2.9	25	21.0	SE	28	3	8	20	7.8	52
WILLIAMSPORT	160	993.6	1013.7	-4.4	-14.6	-9.5	-6.8	2.2	28+	-27.2	18	0	31			34	-30	15	10	0	406	203	3.3	28	17.0	29	28	4	11	16	6.9	
RHODE ISLAND																																
BLOCK ISLAND	34			-2.2	-8.3	-5.2	-4.9	8.9	10	-16.1	18	0	31			66	-21	32	9		117	76										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days sunrise to sunset			Sky cover, tenths, sunrise to sunset	Possible sunshine
												No. of days							No. of days		Snow, ice pellets				Fastest mile (1.6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C		C		C			C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1007.1	1009.4	-1.9	-10.5	-6.2	-4.2	8.3	10	-18.9	18	0	31	-12.2	63	99	10	56	8	1	356	229	3.3	29	14.3	18	[illegible]	13	6	12	5.9	66
SOUTH CAROLINA																																
CHARLESTON	12	1016.6	1018.5	9.2	-1.8	3.7	-5.6	18.3	10+	-8.3	17	0	22	-4.4	61	69	-5	22	9	0	25	25	2.3	29	13.4	26	10	10	5	16	6.1	58
CHARLESTON U	3			8.9	0.3	4.6	-5.4	16.7	10+	-6.7	19+	0	16			59	-9	24	10		20	25										
COLUMBIA	65	1009.5	1017.6	7.4	-3.3	2.1	-5.3	13.9	5	-12.8	17	0	24	-5.1	58	107	19	64	8	0	T	T	1.7	28	10.3	29	25+	11	7	13	5.8	54
GR VILLE-SPRTNBRG	292	981.4	1017.1	4.6	-6.0	-0.7	-6.4	17.8	27	-12.8	17	0	28	-7.8	61	90	-14	40	9	0	175	102	1.3	28	12.1	SW	10	13	9	10	4.9	64
SOUTH DAKOTA																																
ABERDEEN	395	971.6	1022.0	-11.3	-22.7	-17.0	-4.5	0.6	23+	-35.0	9	0	31	-21.1	70	9	-5	5	4	0	135	127	2.5	30	15.6	32	26	6	10	15	6.2	
HURON	390	972.2	1021.9	-8.7	-20.9	-14.8	-4.0	3.9	23	-31.7	16	0	31	-20.0	65	5	-6	2	5	0	89	25	2.7	30	16.1	NW	26	8	7	16	6.7	69
RAPID CITY	964	904.8	1021.7	-4.2	-17.3	-10.7	-5.1	7.2	19	-27.2	16	0	31	-15.6	67	21	9	4	11	0	282	102	3.3	35	29.2	NW	7	7	11	13	6.2	62
SIOUX FALLS	432	966.8	1022.0	-8.8	-21.6	-15.2	-5.3	2.8	23	-33.3	16	0	31	-19.4	69	5	-10	3	6	0	69	25	2.5	30	13.0	32	27+	8	10	13	6.2	
TENNESSEE																																
BRISTOL	459	961.7	1018.3	-1.0	-10.1	-5.5	-7.9	7.2	10+	-21.7	17	0	30	-10.0	71	48	-44	12	14	0	303	102	2.4	25	13.9	29	20	7	6	18	6.8	
CHATTANOOGA	203	994.6	1020.1	3.4	-7.3	-1.9	-6.5	12.2	28+	-18.9	17	0	26	-9.9	63	80	-57	36	8	0	94	51	1.3	30	12.5	26	19	5	13	13	6.2	47
KNOXVILLE	299	983.1	1019.5	1.9	-7.3	-2.7	-7.4	9.4	28+	-18.3	17	0	24	-7.8	69	65	-54	21	13	0	201	102	1.7	27	13.0	27	10	8	8	15	6.4	50
MEMPHIS	79	1011.5	1022.3	3.4	-4.9	-0.7	-5.4	13.9	27+	-13.3	17+	0	25	-7.2	63	65	-60	36	12	0	89	25	1.3	33	13.4	35	28	11	3	17	6.1	60
NASHVILLE	180	998.3	1020.9	0.9	-9.3	-4.2	-7.7	11.1	27+	-20.6	17	0	27	-10.6	65	64	-56	17	13	0	470	102	1.7	29	11.2	32	26+	8	8	15	6.2	53
OAK RIDGE R	276			1.1	-9.2	-4.0	-7.4	8.9	28	-22.2	17	0	28			64	-69	20	12		221	51			17.0V		10	7	9	15	6.3	
TEXAS																																
ABILENE	544	956.0	1020.6	8.7	-4.6	2.1	-4.4	18.9	4	-13.3	9	0	26	-6.1	60	31	5	15	7	1	99	25	0.4	24	15.6	N	28	10	5	16	6.4	62
AMARILLO	1098	891.6	1018.8	5.9	-8.1	-1.1	-3.3	14.4	31+	-18.3	9	0	30	-10.0	56	16	3	11	4	0	163	127	1.3	29	15.6	28	4	14	7	10	4.8	73
AUSTIN	182	998.6	1021.3	10.4	0.2	5.3	-4.5	26.7	27	-7.2	10	0	15	-0.6	69	57	9	19	10	1	0	T	1.7	1	16.5	NW	9	6	8	17	6.6	51
BROWNSVILLE	6	1018.6	1019.3	17.7	7.8	12.8	-2.9	28.3	27	-1.1	19+	0	3	9.4	83	31	-3	10	9	0	0	0	1.8	35	11.6	N	16	3	5	23	8.4	27
CORPUS CHRISTI	12	1018.6	1020.3	14.7	5.6	10.2	-3.3	28.3	28	-3.3	10	0	3	7.2	84	79	39	36	14	1	0	0	2.8	2	13.4	1	30	2	8	21	8.2	31
DALLAS - FORT WORTH	168	1000.0	1021.9	6.6	-3.6	1.5	-5.6	19.4	4	-12.2	31	0	24	-3.9	72	61	15	12	11	1	137	102	1.0	35	15.6	36	18	10	5	16	6.1	
DEL RIO	313	982.7	1019.7	13.4	2.6	8.0	-2.4	26.7	27	-6.7	10	0	10	1.7	69	23	7	8	10	1	0	0	1.3	7	11.2	32	28+	2	11	18	7.6	
EL PASO	1194	882.8	1016.6	13.5	0.6	7.1	0.6	17.8	26	-6.1	10	0	15	-2.8	53	14	5	8	7	0	T	T	0.9	30	17.4	27	27	10	8	13	6.1	71
GALVESTON	2			11.6	4.6	8.1	-4.1	22.8	28	-6.1	10	0	6			87	10	29	11		0	0			13.4	NW	9					43
HOUSTON INTERCON	29	1017.6	1021.5	11.8	0.1	5.9	-5.2	25.0	27	-7.8	19+	0	15	0.6	73	68	-23	21	11	0	0	0	1.3	2	11.6	34	18	11	5	15	6.5	47
LUBBOCK	992	904.8	1019.2	9.1	-6.4	1.4	-2.6	18.3	3	-17.8	10	0	28	-8.3	55	6	-8	3	5	0	51	51	0.8	28	14.3	27	4	13	8	10	5.2	73
MIDLAND	869	917.7	1018.1	11.9	-2.6	4.7	-1.7	21.1	3	-13.3	10	0	24	-4.4	58	16	1	11	4	0	18	25	0.3	1	13.4	4	16	8	10	13	5.9	
PORT ARTHUR	5	1020.3		12.4	1.4	6.9	-4.2	24.4	28	-8.3	10	0	13			125	22	63	12	0	0	0	1.9	3	13.0	N	16	5	10	16	7.0	48
SAN ANGELO	580	951.6	1020.0	11.3	-2.0	4.7	-3.3	21.7	27	-8.9	10+	0	23	-2.8	65	15	-5	6	5	0	T	T	0.4	27	11.2	2	28	5	10	16	7.0	
SAN ANTONIO	240	991.5	1020.2	12.1	1.3	6.7	-3.7	26.7	27	-6.7	10	0	13	0.6	70	79	37	29	13	0	0	T	2.0	2	13.4	1	28+	5	11	15	6.9	45
VICTORIA	32	1016.3	1020.5	12.8	2.7	7.8	-4.2	26.7	27	-6.7	10	0	10	3.3	78	61	16	17	12	1	0	0	2.5	1	20.6Y	N	18	2	9	20	7.9	
WACO	153	1003.1	1021.8	9.3	-2.6	3.3	-5.0	20.6	27	-11.7	10	0	21	-2.2	74	46	-1	17	9	0	46	51	0.8	34	13.9	34	18	10	6	15	6.0	
WICHITA FALLS	303	983.7	1021.9	5.8	-6.2	-0.2	-5.4	18.3	4	-18.3	10	0	29	-5.6	73	28	1	13	6	0	150	127	0.3	33	17.0	4	28+	14	4	13	5.4	
UTAH																																
MILFORD	1533	848.0	1023.2	4.9	-12.2	-3.6	-0.1	11.1	21	-18.3	11+	0	30			5	-10	2	5		28	25			13.4	SW	3	10	11	10	5.6	67
SALT LAKE CITY	1286	874.7	1023.4	2.0	-7.8	-2.9	-0.7	9.4	18	-18.9	9	0	30	-6.7	76	19	-13	10	4	0	218	127	0.9	18	15.2	SE	2	4	6	21	7.7	68
VERMONT																																
BURLINGTON	101	996.3	1009.6	-7.2	-16.1	-11.6	-3.2	-1.1	25	-28.9	18	0	31	-16.1	69	41	-3	13	16	0	615	457	1.3	22	13.9	S	31	1	5	25	8.4	36
VIRGINIA																																
LYNCHBURG	279	980.4		0.1	-10.1	-5.0	-7.6	7.8	4	-22.2	17	0	31			45	-26	17	8		254	152	2.4	28	12.5	SW	10	13	7	11	4.7	71
NORFOLK	7	1014.2	1015.3	2.4	-5.6	-1.6	-6.3	13.9	10	-15.0	17	0	30	-8.9	59	85	-1	40	11	0	119	51	2.6	30	14.3	24	10	12	9	10	5.2	
RICHMOND	50	1009.1	1015.7	1.8	-9.3	-3.7	-6.8	12.8	28	-18.3	17	0	31	-10.0	65	56	-16	21	9	0	282	127	1.9	28	15.2	NW	10	12	5	14	5.5	59
ROANOKE	350	972.2	1015.9	0.2	-9.5	-4.7	-7.1	8.3	28+	-20.0	17	0	31	-12.8	56	37	-33	12	8	0	226	102	3.4	29	14.3	30	7	11	10	10	5.1	
WALLOPS ISLAND	3			0.3	-7.4	-3.5	-5.8	11.7	10	-15.0	17	0	31			77	-2	33	11		173	51			24.6Y	WNW	28					
WASHINGTON																																
OLYMPIA	59	1014.2	1021.7	5.9	-1.8	2.1	-0.8	14.4	17	-11.1	5	0	20	0.6	90	39	-162	10	13	0	46	51	0.6	17	7.6	18	31+	2	4	25	8.8	
QUILLAYUTE	55	1013.2	1020.6	8.9	-0.7	4.1	0.4	13.3	26	-8.3	9	0	19	1.7	88	210	-161	70	12	1	0	0	0.7	10	8.5	S	17	4	6	21	7.6	44
SEATTLE U	6			6.9	1.6	4.3	0.0	13.9	18+	-3.9	5	0	14			54	-77	18	12		25	254			11.2Y	SSW	16					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation: ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Ice pellets: Total	Precipitation: Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1005.1	1022.1	7.1	1.2	4.1	0.7	13.9	16	-4.4	10+	0	14	1.1	87	45	-102	16	13	0	25	25	0.8	6	10.3	Nw	18	4	6	21	7.7	13
SPOKANE	718	937.4	1024.6	-2.9	-8.2	-5.6	-1.9	8.3	18	-18.9	8	0	30	-7.2	89	19	-44	12	8	0	173	152	0.3	5	12.1	Sw	18	3	3	25	8.4	21
STAMPEDE PASS	1206	881.1		0.6	-6.0	-2.7	2.3	10.0	17	-11.7	11+	0	27			137	-191	43	13		277	584										
WALLA WALLA	289			-1.3	-5.4	-3.3	-4.1	15.6	18	-16.1	7+	0	29			14	-39	7	13		191	102			6.7	Nw	12	0	1	30	9.7	8
YAKIMA	321	986.5	1026.0	-0.7	-7.7	-4.2	-1.7	20.0	18	-16.1	6	0	31	-6.7	86	3	-30	2	5	0	81	51	1.1	28	7.2	4	24	2	3	26	8.8	
WEST INDIES																																
SAN JUAN P.R.	4	1013.5	1016.1	28.6	21.4	25.0	0.9	32.2	19	18.9	30+	1	0	17.2	65	193	98	93	13	0	0	0	[illegible]	9	10.7	Sw	18	10	15	6	4.6	78
WEST VIRGINIA																																
BECKLEY	763	924.1	1018.1	-3.4	-13.8	-8.6	-8.3	5.6	28	-27.8	17	0	31	-12.2	76	51	-37	13	17	0	902	483	3.6	26	16.1	12	9	8	5	18	6.9	
CHARLESTON	286	982.4	1013.3	-3.1	-11.9	-7.4	-8.8	6.7	28	-23.3	17	0	31	-12.8	69	48	-38	9	15	0	564	229	2.7	26	13.0	24	28	6	8	17	7.0	
ELKINS	594	942.1		-3.9	-15.1	-9.4	-8.3	7.2	28	-27.8	13	0	31			44	-40	7	18	0	947	508						3	6	22	8.1	
HUNTINGTON	252	986.8	1018.4	-2.4	-11.3	-6.8	-8.1	5.6	28	-25.0	17	0	31	-12.2	67	61	-19	14	12	0	602	254	2.5	27	13.4	32	28+	7	8	16	6.9	
PARKERSBURG	187			-3.7	-12.5	-8.1	-8.6	3.9	28	-25.0	17	0	31			33	-46	9	13		450	178			17.9	Sw	28					
WISCONSIN																																
GREEN BAY	208	988.8	1016.1	-10.9	-21.2	-16.1	-6.8	0.6	24	-32.8	9	0	31	-21.1	65	17	-11	4	11	0	307	254	3.8	26	14.8	Nw	26	9	7	15	5.8	63
LA CROSSE	193	994.2	1020.6	-11.1	-21.3	-16.2	-7.3	-0.6	23	-32.8	9	0	31	-21.1	65	22	-2		10	0	257		1.8	28								
MADISON	262	984.1	1017.6	-9.9	-21.5	-15.7	-7.3	-1.7	24	-30.0	9	0	31	-19.4	69	13	-18	3	14	0	221	102	3.4	27	14.8	Nw	26	8	10	13	5.9	56
MILWAUKEE	205	989.8	1016.6	-8.9	-17.4	-13.2	-6.2	-1.1	24	-27.8	16	0	31	-16.7	73	23	-19	8	17	0	396	203	4.6	27	16.5	N	26	6	12	13	6.4	56
WYOMING																																
CASPER	1627	835.4	1019.7	-0.1	-13.1	-6.6	-1.7	7.2	21+	-27.8	5	0	31	-12.8	64	9	-4	6	7	0	216	152	4.1	24	15.6	23	7	4	13	14	6.8	
CHEYENNE	1867	807.7	1018.7	2.1	-12.8	-5.3	-2.3	9.4	31	-24.4	9	0	31	-13.9	54	4	-8	2	4	0	64	51	4.2	30	21.9	Nw	17	8	10	13	6.3	61
LANDER	1696	827.3	1021.6	-2.0	-15.9	-8.9	-2.1	8.3	17	-26.7	9	0	31	-14.4	68	13	1	6	4	0	231	254	0.7	17	11.7	NE	7	11	9	11	5.5	65
SHERIDAN	1208	878.4	1021.6	-2.5	-15.6	-9.1	-2.9	7.2	19	-27.2	15	0	31	-12.2	72	37	19	13	15	0	668	254	2.7	30	17.9	Nw	27+	5	4	22	7.5	42

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	1026	2586	1832
HUNTSVILLE	1120	2869	2059
MOBILE	736	1837	1086
MONTGOMERY	894	2233	1467
ALASKA			
ANCHORAGE	1017	5278	5523
ANNETTE	856	3552	3765
BARROW	2269	10897	[illegible]
BARTER ISLAND	2334	[illegible]	[illegible]
BETHEL	1335	6867	[illegible]
BETTLES	1848	8189	8591
BIG DELTA	1478	6665	8434
COLD BAY	914	5356	5383
FAIRBANKS	1789	7467	8891
GULKANA	1507	5729	8527
HOMER	856	4933	5989
JUNEAU	918	4234	5244
KING SALMON	941	5910	6716
KODIAK	861	4518	4921
KOTZEBUE	1610	7917	8803
MC GRATH	1683	7879	8834
NOME	1255	7048	7961
ST. PAUL ISLAND	1059	5974	5915
TALKEETNA	1159	5780	7014
UNALAKLEET	1363	6919	7987
VALDEZ	1060	5193	6215
YAKUTAT	888	4519	5422
ARIZONA			
FLAGSTAFF	1177	3832	4033
PHOENIX	339	738	1015
TUCSON	435	1048	1195
WINSLOW	1186	3355	2896
YUMA	276	597	692
ARKANSAS			
FORT SMITH	1186	3042	2108
LITTLE ROCK	1041	2576	2105
CALIFORNIA			
BAKERSFIELD	599	1189	1404
BISHOP	829	2316	2558
BLUE CANYON	746	2351	2839
EUREKA U	537	2468	2555
FRESNO	636	1613	1641
LONG BEACH	224	446	844
LOS ANGELES	227	439	902
LOS ANGELES U	215	415	639
MT SHASTA R	1053	3168	3255
OAKLAND	478	1349	1615
RED BLUFF	617	1319	1612
SACRAMENTO	650	1514	1678
SANDBERG R	767	2056	2248
SAN DIEGO	143	311	776
SAN FRANCISCO	549	1590	1663
SAN FRANCISCO U	443	1405	1681
SANTA MARIA	427	1237	1596
STOCKTON	650	1515	1684
COLORADO			
ALAMOSA	1598	5547	5048
COLORADO SPRINGS	1181	3823	3540
DENVER	1105	3429	3388
GRAND JUNCTION	1267	3651	3431
PUEBLO	1151	3613	3190
CONNECTICUT			
BRIDGEPORT	1274	3448	2919
HARTFORD	1429	4066	3600
DELAWARE			
WILMINGTON	1361	3577	2827
DIST.OF COLUMBIA			
WASHINGTON DULLES	1361	3712	2924
WASHINGTON NATIONAL	1221	3097	2481
FLORIDA			
APPALACHICOLA U	617	1421	866
DAYTONA BEACH	444	832	550
FORT MYERS	281	469	284
JACKSONVILLE	643	1433	845
KEY WEST	65	75	34
LAKELAND U	400	714	416
MIAMI	165	206	122
ORLANDO	440	759	442
PENSACOLA	717	1725	1007
TALLAHASSEE	649	1564	1019
TAMPA	422	763	443
WEST PALM BEACH	220	303	183
GEORGIA			
ATHENS	1040	2547	1858
ATLANTA	1099	2779	1921
AUGUSTA	906	2222	1626
COLUMBUS	874	2159	1512
MACON	867	2078	1447
ROME	1110	2801	2104
SAVANNAH	771	1808	1254
IDAHO			
BOISE	1418	3784	3437
LEWISTON	1116	3026	3269
POCATELLO	1478	4155	4083
ILLINOIS			
CAIRO U	1312	3248	2362
CHICAGO O HARE	1679	4710	3729
CHICAGO MIDWAY	1695	4658	3513
MOLINE	1755	4893	3747
PEORIA	1747	4756	3582
ROCKFORD	1830	5283	3967
SPRINGFIELD	1693	4442	3288
INDIANA			
EVANSVILLE	1549	3774	2798
FORT WAYNE	1723	4655	3568
INDIANAPOLIS	1693	4430	3276
SOUTH BEND	1628	4562	[illegible]
IOWA			
BURLINGTON	1724	4683	3618
DES MOINES	1700	4601	3927
DUBUQUE	1909	5377	4235
SIOUX CITY	1738	4940	4136
WATERLOO	2017	5644	4342
KANSAS			
CONCORDIA	1424	3853	3329
DODGE CITY	1274	3418	2994
GOODLAND	1296	3878	3531
TOPEKA	1537	4060	3153
WICHITA	1253	3460	2840
KENTUCKY			
COVINGTON	1640	4264	2972
LEXINGTON	1457	3879	2808
LOUISVILLE	1435	3596	2770
LOUISIANA			
ALEXANDRIA	806	1995	1412
BATON ROUGE	710	1715	1094
LAKE CHARLES	671	1603	966
NEW ORLEANS	664	1570	949
SHREVEPORT	851	2095	1390
MAINE			
CARIBOU	1828	6182	5397
PORTLAND	1559	4828	4134
MARYLAND			
BALTIMORE	1296	3424	2745
MASSACHUSETTS			
BLUE HILL OBS R	1428	4212	3475
BOSTON	1290	3545	3081
WORCESTER	1508	4570	3801
MICHIGAN			
ALPENA	1696	5304	4655
DETROIT	1534	4199	3472
DETROIT METRO	1609	4577	3624
FLINT	1671	4843	3939
GRAND RAPIDS	1616	4838	3809
HOUGHTON LAKE	1743	5529	4648
LANSING	1666	4999	3878
MARQUETTE U	1695	5396	4532
MUSKEGON	1564	4731	3787
SAULT STE MARIE	1818	5888	5028
MINNESOTA			
DULUTH	2017	6485	5518
INTERNATIONAL FALLS	2195	7045	6113
MINNEAPOLIS	2005	5485	4730
ROCHESTER	2071	5943	4742
ST CLOUD	2085	6181	5136
MISSISSIPPI			
JACKSON	913	2252	1465
MERIDIAN	932	2372	1547
MISSOURI			
COLUMBIA REGIONAL	1587	4184	3027
KANSAS CITY	1527	4014	3086
ST JOSEPH	1558	4103	3266
ST LOUIS	1541	3978	2846
SPRINGFIELD	1421	3649	2747
MONTANA			
BILLINGS	1451	4084	4132
GLASGOW	1917	5391	5180
GREAT FALLS	1339	3954	4330
HAVRE	1714	4756	5158
HELENA	1449	4391	4751
KALISPELL	1405	4704	4988
MILES CITY	1774	4840	4599
MISSOULA	1431	4650	4659
NEBRASKA			
GRAND ISLAND	1461	4190	3781
LINCOLN	1604	4473	3688
NORFOLK	1624	4625	4092
NORTH PLATTE	1493	4453	3933
OMAHA	1598	4393	3589
SCOTTSBLUFF	1362	3946	3893
VALENTINE	1672	4793	4196
NEVADA			
ELKO	1262	4026	4310
ELY	1324	4375	4355
LAS VEGAS	593	1413	1690
RENO	1002	3400	3456
WINNEMUCCA	1176	3566	3810
NEW HAMPSHIRE			
CONCORD	1683	5151	4162
MT WASHINGTON OBS	2114	8794	7722
NEW JERSEY			
ATLANTIC CITY	1398	3742	2795
ATLANTIC CITY U	1253	3292	2502
NEWARK	1361	3654	2829
TRENTON U	1333	3561	2805
NEW MEXICO			
ALBUQUERQUE	1084	3197	2657
CLAYTON	1079	3332	2994
ROSWELL	811	2556	2386
NEW YORK			
ALBANY	1526	4573	3911
BINGHAMTON	1636	5018	4054
BUFFALO	1580	4632	3788
NEW YORK U	1322	3517	2698
NEW YORK KENNEDY	1326	3560	2819
NEW YORK LA GUARDIA	1316	3393	2716
ROCHESTER	1524	4431	3703
SYRACUSE	1520	4496	3688
NORTH CAROLINA			
ASHEVILLE	1239	3328	2535
CAPE HATTERAS R	900	2050	1500
CHARLOTTE	1075	2799	1990
GREENSBORO	1184	3121	2336
RALEIGH	1183	3017	2146
WILMINGTON	899	2095	1497
NORTH DAKOTA			
BISMARCK	2063	5702	5244
FARGO	2119	6200	5374
WILLISTON	2024	5766	5332
OHIO			
AKRON	1656	4682	3528
CINCINNATI ABBE OB	1536	3920	2863
CLEVELAND	1672	4584	3434
COLUMBUS	1659	4506	3323
DAYTON U	1651	4409	3274
MANSFIELD	1743	4973	3318
TOLEDO	1708	4869	3656
YOUNGSTOWN	1692	4826	3614
OKLAHOMA			
OKLAHOMA CITY	1103	2862	2283
TULSA	1173	3012	2282
OREGON			
ASTORIA	774	2648	2892
BURNS U	1413	4054	4133
EUGENE	801	2605	2682
MEDFORD	952	3037	2852
PENDLETON	1192	3188	3139
PORTLAND	901	2642	2748
SALEM	842	2813	2735
SEXTON SUMMIT R	766	2602	3372
PENNSYLVANIA			
ALLENTOWN	1428	3985	3332
ERIE	1620	4561	3720
HARRISBURG	1397	3716	3066
PHILADELPHIA	1390	3633	2789
PITTSBURGH	1655	4696	3418
PITTSBURGH U	1549	4206	3038
SCRANTON	1546	4384	3580
WILLIAMSPORT	1547	4214	3435
RHODE ISLAND			
BLOCK ISLAND	1306	3665	2936
PROVIDENCE	1361	4036	3278
SOUTH CAROLINA			
CHARLESTON	811	1889	1353
CHARLESTON U	757	2000	1177
COLUMBIA	901	2277	1650
GRNVLLE-SPRTNBRG	1057	2743	1963
SOUTH DAKOTA			
ABERDEEN	1973	5525	5028
HURON	1849	5432	4699
RAPID CITY	1616	4531	4113
SIOUX FALLS	1867	5262	4565
TENNESSEE			
BRISTOL	1324	3525	2598
CHATTANOOGA	1123	2915	2181
KNOXVILLE	1166	3001	2144
MEMPHIS	1056	2570	2023
NASHVILLE	1250	3220	2279
OAK RIDGE	1242	3365	2407
TEXAS			
ABILENE	901	2453	1662
AMARILLO	1075	3234	2508
AUSTIN	719	1797	1126
BROWNSVILLE	319	773	410
CORPUS CHRISTI	455	1078	[illegible]
DALLAS FT WORTH	931	2218	1503
DEL RIO	568	1524	1061
EL PASO	623	2154	1796
GALVESTON	563	1345	744
HOUSTON INTERCON	687	1742	928
LUBBOCK	939	2727	2194
MIDLAND	755	2165	1692
PORT ARTHUR	626	1589	981
SAN ANGELO	757	2093	1400
SAN ANTONIO	643	1646	1035
VICTORIA	585	1419	795
WACO	827	2074	1321
WICHITA FALLS	1023	2578	1835
UTAH			
MILFORD	1217	3840	3747
SALT LAKE CITY	1175	3430	3512
VERMONT			
BURLINGTON	1667	5122	4410
VIRGINIA			
LYNCHBURG	1294	3360	2530
NORFOLK	1104	2641	2016
RICHMOND	1227	3104	2303
ROANOKE	1275	3457	2559
WALLOPS ISLAND	1210	3037	2303
WASHINGTON			
OLYMPIA	902	3227	3140
QUILLAYUTE	784	3037	3276
SEATTLE	780	2452	2660
SEATTLE-TACOMA	786	2385	2932
SPOKANE	1324	4005	4026
STAMPEDE PASS R	1160	4701	5235
WALLA WALLA U	1202	3134	2946
YAKIMA	1248	3710	3672
WEST VIRGINIA			
BECKLEY	1496	4294	3208
CHARLESTON	1432	3861	2740
ELKINS	1540	4459	3464
HUNTINGTON	1397	3 02	2747
PARKERSBURG U	1466	3944	2836
WISCONSIN			
GREEN BAY	1918	5780	4589
LA CROSSE	1923	5457	4321
MADISON	1898	5536	4439
MILWAUKEE	1 54	5050	4165
WYOMING			
CASPER	1385	4301	4227
CHEYENNE	1314	4253	3993
LANDER	1514	4523	4526
SHERIDAN	1520	4526	4374

COOLING DEGREE DAYS

(Base 65°F.)

JANUARY 1977

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	0	0	9
HUNTSVILLE	0	0	0
MOBILE	0	0	23
MONTGOMERY	0	0	14
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	0	0
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES	0	0	0
BIG DELTA	0	0	0
COLD BAY	0	0	0
FAIRBANKS	0	0	0
GULKANA	0	0	0
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	0	0
MC GRATH	0	0	0
NOME	0	0	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	0	0
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	0	0
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	0	0	0
YUMA	0	0	10
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	0
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	0	0	0
BLUE CANYON	0	0	0
EUREKA U	0	0	0
FRESNO	0	0	0
LONG BEACH	6	6	0
LOS ANGELES	3	3	5
LOS ANGELES U	7	7	10
MT SHASTA R	0	0	0
OAKLAND	0	0	0
RED BLUFF	0	0	0
SACRAMENTO	0	0	0
SANDBERG R	0	0	0
SAN DIEGO	5	5	10
SAN FRANCISCO	0	0	0
SAN FRANCISCO U	0	0	0
SANTA MARIA	0	0	0
STOCKTON	0	0	0
COLORADO			
ALAMOSA	0	0	0
COLORADO SPRINGS	0	0	0
DENVER	0	0	0
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	0	0	0
HARTFORD	0	0	0
DELAWARE			
WILMINGTON	0	0	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	0	0	0
WASHINGTON NATIONAL	0	0	0
FLORIDA			
APPALACHICOLA U	0	0	18
DAYTONA BEACH	4	4	37
FORT MYERS	7	7	81
JACKSONVILLE	0	0	25
KEY WEST	101	101	193
LAKELAND U	2	2	58
MIAMI	50	50	121
ORLANDO	1	1	52
PENSACOLA	0	0	27
TALLAHASSEE	0	0	23
TAMPA	2	2	60
WEST PALM BEACH	25	25	99
GEORGIA			
ATHENS	0	0	0
ATLANTA	0	0	0
AUGUSTA	0	0	6
COLUMBUS	0	0	10
MACON	0	0	10
ROME	0	0	0
SAVANNAH	0	0	15
HAWAII			
HILO	280	280	192
HONOLULU	276	276	226
KAHULUI	216	216	208
LIHUE	255	255	196
IDAHO			
BOISE	0	0	0
LEWISTON	0	0	0
POCATELLO	0	0	0
ILLINOIS			
CAIRO U	0	0	0
CHICAGO O HARE	0	0	0
CHICAGO MIDWAY	0	0	0
MOLINE	0	0	0
PEORIA	0	0	0
ROCKFORD	0	0	0
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	0	0	0
FORT WAYNE	0	0	0
INDIANAPOLIS	0	0	0
SOUTH BEND	0	0	0
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	0
DUBUQUE	0	0	0
SIOUX CITY	0	0	0
WATERLOO	0	0	0
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	0	0	0
GOODLAND	0	0	0
TOPEKA	0	0	0
WICHITA	0	0	0
KENTUCKY			
COVINGTON	0	0	0
LEXINGTON	0	0	0
LOUISVILLE	0	0	0
LOUISIANA			
ALEXANDRIA	0	0	10
BATON ROUGE	0	0	17
LAKE CHARLES	0	0	21
NEW ORLEANS	0	0	28
SHREVEPORT	0	0	0
MAINE			
CARIBOU	0	0	0
PORTLAND	0	0	0
MARYLAND			
BALTIMORE	0	0	0
MASSACHUSETTS			
BLUE HILL OBS R	0	0	0
BOSTON	0	0	0
WORCESTER	0	0	0
MICHIGAN			
ALPENA	0	0	0
DETROIT	0	0	0
DETROIT METRO	0	0	0
FLINT	0	0	0
GRAND RAPIDS	0	0	0
HOUGHTON LAKE	0	0	0
LANSING	0	0	0
MARQUETTE U	0	0	0
MUSKEGON	0	0	0
SAULT STE MARIE	0	0	0
MINNESOTA			
DULUTH	0	0	0
INTERNATIONAL FALLS	0	0	0
MINNEAPOLIS	0	0	0
ROCHESTER	0	0	0
ST CLOUD	0	0	0
MISSISSIPPI			
JACKSON	0	0	14
MERIDIAN	0	0	14
MISSOURI			
COLUMBIA REGIONAL	0	0	0
KANSAS CITY	0	0	0
ST JOSEPH	0	0	0
ST LOUIS	0	0	0
SPRINGFIELD	0	0	0
MONTANA			
BILLINGS	0	0	0
GLASGOW	0	0	0
GREAT FALLS	0	0	0
HAVRE	0	0	0
HELENA	0	0	0
KALISPELL	0	0	0
MILES CITY	0	0	0
MISSOULA	0	0	0
NEBRASKA			
GRAND ISLAND	0	0	0
LINCOLN	0	0	0
NORFOLK	0	0	0
NORTH PLATTE	0	0	0
OMAHA	0	0	0
SCOTTSBLUFF	0	0	0
VALENTINE	0	0	0
NEVADA			
ELKO	0	0	0
ELY	0	0	0
LAS VEGAS	0	0	0
RENO	0	0	0
WINNEMUCCA	0	0	0
NEW HAMPSHIRE			
CONCORD	0	0	0
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	0	0	0
ATLANTIC CITY U	0	0	0
NEWARK	0	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	0	0	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	0	0	0
BINGHAMTON	0	0	0
BUFFALO	0	0	0
NEW YORK U	0	0	0
NEW YORK KENNEDY	0	0	0
NEW YORK LA GUARDIA	0	0	0
ROCHESTER	0	0	0
SYRACUSE	0	0	0
NORTH CAROLINA			
ASHEVILLE	0	0	0
CAPE HATTERAS R	0	0	0
CHARLOTTE	0	0	0
GREENSBORO	0	0	0
RALEIGH	0	0	0
WILMINGTON	0	0	9
NORTH DAKOTA			
BISMARCK	0	0	0
FARGO	0	0	0
WILLISTON	0	0	0
OHIO			
AKRON	0	0	0
CINCINNATI ABBE OB	0	0	0
CLEVELAND	0	0	0
COLUMBUS	0	0	0
DAYTON U	0	0	0
MANSFIELD	0	0	0
TOLEDO	0	0	0
YOUNGSTOWN	0	0	0
OKLAHOMA			
OKLAHOMA CITY	0	0	0
TULSA	0	0	0
OREGON			
ASTORIA	0	0	0
BURNS U	0	0	0
EUGENE	0	0	0
MEDFORD	0	0	0
PENDLETON	0	0	0
PORTLAND	0	0	0
SALEM	0	0	0
SEXTON SUMMIT R	0	0	0
PACIFIC AREA			
GUAM TAGUAC R	363	363	381
JOHNSTON	384	384	366
KOROR R	516	516	502
KWAJALEIN	507	507	502
MAJURO	478	478	490
PAGO PAGO	531	531	474
PONAPE R	504	504	484
TRUK MOEN ISLAND	515	515	496
WAKE	359	359	372
YAP R	474	474	477
PENNSYLVANIA			
ALLENTOWN	0	0	0
ERIE	0	0	0
HARRISBURG	0	0	0
PHILADELPHIA	0	0	0
PITTSBURGH	0	0	0
SCRANTON	0	0	0
WILLIAMSPORT	0	0	0
RHODE ISLAND			
BLOCK ISLAND	0	0	0
PROVIDENCE	0	0	0
SOUTH CAROLINA			
CHARLESTON	0	0	12
CHARLESTON U	0	0	16
COLUMBIA	0	0	0
GRNVLLE-SPRTNBRG	0	0	0
SOUTH DAKOTA			
ABERDEEN	0	0	0
HURON	0	0	0
RAPID CITY	0	0	0
SIOUX FALLS	0	0	0
TENNESSEE			
BRISTOL	0	0	0
CHATTANOOGA	0	0	0
KNOXVILLE	0	0	0
MEMPHIS	0	0	0
NASHVILLE	0	0	0
OAK RIDGE	0	0	0
TEXAS			
ABILENE	0	0	0
AMARILLO	0	0	0
AUSTIN	0	0	8
BROWNSVILLE	15	15	79
CORPUS CHRISTI	4	4	34
DALLAS FT WORTH	0	0	0
DEL RIO	0	0	3
EL PASO	0	0	0
GALVESTON	0	0	20
HOUSTON INTERCON	0	0	16
LUBBOCK	0	0	0
MIDLAND	0	0	0
PORT ARTHUR	0	0	17
SAN ANGELO	0	0	0
SAN ANTONIO	0	0	8
VICTORIA	4	4	16
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	0	0	0
VERMONT			
BURLINGTON	0	0	0
VIRGINIA			
LYNCHBURG	0	0	0
NORFOLK	0	0	0
RICHMOND	0	0	0
ROANOKE	0	0	0
WALLOPS ISLAND	0	0	0
WASHINGTON			
OLYMPIA	0	0	0
QUILLAYUTE	0	0	0
SEATTLE	0	0	0
SEATTLE-TACOMA	0	0	0
SPOKANE	0	0	0
STAMPEDE PASS R	0	0	0
WALLA WALLA U	0	0	10
YAKIMA	0	0	0
WEST INDIES			
SAN JUAN P.R.	382	382	322
WEST VIRGINIA			
BECKLEY	0	0	0
CHARLESTON	0	0	0
ELKINS	0	0	0
HUNTINGTON	0	0	0
PARKERSBURG U	0	0	0
WISCONSIN			
GREEN BAY	0	0	0
LA CROSSE	0	0	0
MADISON	0	0	0
MILWAUKEE	0	0	0
WYOMING			
CASPER	0	0	0
CHEYENNE	0	0	0
LANDER	0	0	0
SHERIDAN	0	0	0

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS
Alabama																			2			3	1						
Alaska												6																	
Arizona *																													
Arkansas																		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
California	1	1			1											[illegible]												4	[illegible]
Colorado											1	4						1											
Connecticut												4								4								3	
Delaware																							[illegible]	[illegible]					
Florida	2	2			5																								8
Georgia												3								4	4			3	4			7	
Hawaii *																													
Idaho *																													
Illinois										1								5											
Indiana																		9		[illegible]	[illegible]								
Iowa																				4									
Kansas *																													
Kentucky																													8
Louisiana																				4	[illegible]	1		7	5				
Maine																				6									
Maryland & DC												3							[illegible]	[illegible]			[illegible]	[illegible]		2	[illegible]	[illegible]	[illegible]
Massachusetts												4								6								4	
Michigan																		3	41	5	C							6	C
Minnesota										4	3	5																	
Mississippi	2	1			4							[illegible]	[illegible]			[illegible]	[illegible]			[illegible]	[illegible]			[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]
Missouri																				[illegible]									
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire																				5									
New Jersey																			[illegible]	[illegible]	[illegible]						[illegible]	[illegible]	[illegible]
New Mexico																				6	[illegible]								
New York										1		5						33	[illegible]	8	[illegible]						[illegible]	[illegible]	[illegible]
North Carolina																				5						7		5	4
North Dakota *																													
Ohio																		7	[illegible]	5						3	[illegible]	6	
Oklahoma *																													
Oregon																								[illegible]	[illegible]				
Pacific *																													
Pennsylvania											1	4						1	6	5	[illegible]			2					
Puerto Rico																												5	
Rhode Island												4								4								4	
South Carolina																												4	4
South Dakota *																													
Tennessee *																													
Texas																			[illegible]	5	4	6	[illegible]	7	5				
Utah *																													
Vermont *																													
Virginia											3	3								3		1	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	[illegible]
Virgin Islands *																													
Washington *																													
West Virginia																										4		5	
Wisconsin																		2	[illegible]	[illegible]									
Wyoming *																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS
JANUARY 1977

Herbert J. Thompson, Office of Hydrology

There was no major flooding throughout the country during January for the third consecutive month. Significant losses were reported in the Suwannee River Basin in southern Georgia and northern Florida. Moderate flooding occurred on the Cape Fear, Rocky, Neuse, Pee Dee, Broad, and Congaree Rivers in the South Atlantic Slope Drainage with minor flooding on several other streams in the area. Lowland flooding was reported on the Appalachicola, lower Tombigbee, and lower Pearl Rivers in the East Gulf of Mexico Drainage. Minor flooding occurred on a few streams in Texas and Louisiana and on the Snohomish River in Washington.

Record breaking cold weather caused excessive river ice formation in northern sections of the country and heavy snow accumulations in the upper Ohio River Basin and parts of the Great Lakes Drainage. Ice jam flooding occurred on the Muskegon River in Michigan, the Yellowstone River in Montana, the Missouri River in Nebraska and Missouri, and the Portneuf River in Idaho.

Flash and/or urban flooding was reported in eastern Massachusetts, Rhode Island, and New Jersey on the 9th and in northeastern Puerto Rico on the 21st.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
January was an unusually cold month over the area averaging 11° below normal in Michigan. River ice thickness was above normal creating a potential for ice jam flooding. Minor flooding occurred from an ice jam on the Muskegon River in Michigan. Snowfall was excessive in some areas with Buffalo, NY, reporting 68.3 inches - a new record for any month. Heavy accumulations also occurred in southwestern Michigan. A serious flood potential from snowmelt existed in both of these areas at the end of January.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
Lowland flooding continued from December into early January on the Lumber, Little Pee Dee, lower Santee, Edisto, lower Savannah and Ogeechee Rivers in the Southeast. Heaviest precipitation was on the 9th-10th with mixed rain and snow of up to 2.5 inches over parts of the Carolinas. This, combined with melting of some snow on the ground at higher elevations, produced flooding on a number of streams. Crests of 6 to 7 feet over flood stage occurred on the Cape Fear River. The Rocky River crested 11 feet over flood stage at Norwood, NC. About 3 feet of flooding occurred on the Neuse, Pee Dee, and lower Broad Rivers and a crest more than 5 feet over flood stage were reported on the Congare River near St. Matthews, SC. Minor flooding occurred on Black Creek at Florence, SC, the Lumber River at Lumberton, and the Little Pee Dee, Saluda, Edisto, Ogeechee, and Satilla Rivers. Lowland flooding continued into February on the lower Savannah River. Savings due to warnings were estimated at $120,000 on the Congaree and Pee Dee Rivers.	0	N.A.
EAST GULF OF MEXICO DRAINAGE		
Flooding continued from late December on the Santa Fe River due to high levels in the Suwannee River. This flooding lasted through January ending on February 1. The crest was 1.5 feet over flood stage on the 19th. Considerable damage occurred to residential property with 30 dwellings flooded. Some crop losses also occurred with 1,500 acres inundated	0	140

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Cont'd		
near Branford, FL, and along the Alapaha River. A savings of $45,000 was realized when mobile homes were removed from flooding areas in response to warnings.		
Lowland flooding occurred on the Appalachicola River which crested about 4 feet over flood stage at Blountstown, FL, and on the lower Tombigbee River which crested more than 4 feet over flood stage at Coffeeville, AL. The Pearl River crested more than 11 feet over flood stage at Jackson, MS, but damage was light as most of the city is protected by levees at that stage. About 3 to 4 feet of lowland flooding occurred on the lower Pearl River in Louisiana. Minor flooding was reported on the Ochlockonee River in Florida and the Black Warrior River in Alabama.	0	N.A.
UPPER MISSISSIPPI RIVER BASIN		
Severe cold was the rule over the basin during January. Monthly average temperatures ranged up to 15° below normal. Thick ice formed on streams and small streams froze to the bottom. Soils were unusually dry with little frost present. Record low flows were reported by the United States Geological Survey on several Iowa streams and near record lows on the Mississippi. The Mississippi, Missouri, and Illinois were closed to navigation at times during the month in the St. Louis, MO area due to ice conditions.		
MISSOURI RIVER BASIN		
Below normal temperatures also occurred in the Missouri Basin the first two weeks of January resulting in heavy river ice formation. Ice jams formed on the lower Missouri and backwater flooding occurred from Plattsmouth down to Nebraska City, NE. About 13,000 acres of farmland were inundated. Damage was minimal with farm machinery and cattle moved out of the flooded area in response to warnings. A reduction in releases from Gavins Point Dam on the 23d caused flooding to end by the 26th. Two periods of minor flooding from ice jams occurred near St. Joseph, MO, and minor flooding occurred on the Yellowstone River below Miles City, MT.	0	N.A.
OHIO RIVER BASIN		
Precipitation was generally below normal during January except in the extreme northern portions of the area in Indiana and Pennsylvania where heavy snowfall was reported. Severe cold weather predominated over the Basin. In West Virginia it was the coldest month ever recorded with temperatures averaging 15° below normal. Although precipitation was below normal record snow accumulations occurred in the higher elevations of West Virginia due to the cold. Heavy ice formed in most tributaries and the Ohio River froze over for the first time in several years. Barge traffic was halted for several days at Dam 51 and at Cincinnati. No flooding occurred during the month but preparations were being made for possibly severe ice jam flooding with the advent of warmer weather.		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JANUARY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WHITE RIVER BASIN		
Below normal rainfall in January, when added to the 12 to 13 inch deficiency during 1976, has caused some problems on the White River Basin lakes. The very cold weather required maximum power generation and drastically reduced the water normally held in the power pool. Beaver, Norfork, and Greers Ferry Lakes had only about 35% of the normal power pool and Table Rock and Bull Shoales only about 50% remaining at the end of January. Beaver, Norfork, and Greers Ferry Lakes which normally furnish water to nearby communities had ample water in storage for that purpose.		
ARKANSAS - RED - LOWER - MISSISSIPPI BASINS		
Minor flooding occurred on the Sulphur River in eastern Texas and the Big Black River in western Mississippi.	0	N.A.
Major reservoirs in Oklahoma showed further decrease in storage during the month due to excessive demand caused by the cold weather and below normal precipitation over most of the state. At the end of the month contents were only 33 to 45% of normal conservation pools in the four largest reservoirs. Denison Reservoir on the Red River also showed a further decline in storage ending the month 8 feet below the conservation level of 618 feet.		
WEST GULF OF MEXICO DRAINAGE		
Lowland flooding continued from December on the Neches River at Diboll, TX, and on the lower Guadualupe around Dupont, TX. Additional flooding occurred at Dupont during January with a crest about 3.5 feet over flood stage on the 27th. Flooding continued into February at Dupont. Most reservoirs in west Texas were well below their normal conservation level with several having 34% or less of normal conservation storage.		
PACIFIC SLOPE DRAINAGE		
In the Snake River Basin an ice jam on the Portneuf River caused local backwater flooding at Pocatello, ID, with minimal damage. An ice jam on the Snake River below Weiser, ID, threatened farmland and homes the 10th-15th before warmer temperatures alleviated the problem.	0	N.A.
Two periods of warm, steady orographic rain over the north coastal streams in Washington on the 16th-18th caused sharp rises on streams in the area. Only the Snohomish River exceeded flood stage - by nearly 2 feet at Snohomish, WA. The Skykomish and Snoqualmie Rivers, which form the Snohomish, crested less than a foot below flood stage as did the Nooksack and Stillaguamish Rivers. Damage was minimal.	0	N.A.
PUERTO RICO		
Heavy rains of 5 to 6 inches in less than 12 hours resulted from a cold front that stalled over northeastern Puerto Rico on the 20th-21st. Urban and small stream flooding occurred in the Rio Piedras and Bayamon Basins with some small homes flooded and some evacuations by Civil Defense as a precautionary measure.	0	N.A

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

JANUARY 1977

River and station	Flood stage	Above flood stages – dates From–	Above flood stages – dates To–	Crest Stage	Crest Date
	Ft.			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
[illegible]:					
[illegible]	[illegible]	[illegible]	16	11.19	16
[illegible]					
[illegible]:					
Smithfield, NC	[illegible]	11	[illegible]	[illegible]	12
[illegible]	[illegible]	[illegible]	21	16.8	17
[illegible]	[illegible]	16	21	15.0	19
Cape Fear:					
[illegible]	[illegible]	11	14	48.7	12
[illegible]	[illegible]	11	[illegible]	25.9	13
[illegible]:					
[illegible]	[illegible]	10	11	26.0	11
Black Creek:					
Florence, SC	10	12	13	11.6	12
[illegible]:					
[illegible]	[illegible]	Dec 9 10	6 31	11.7 11.8	Dec 18 16
Little Pee Dee:					
Galivants Ferry, SC	[illegible]	[illegible]	[illegible]	9.8	Dec 25
Pee Dee:					
Cheraw, SC	30	11	11	32.8	11
Pee Dee, SC	19	12	21	21.8	16
Broad:					
Blair, SC	[illegible]	[illegible]	11	17.6	10
[illegible]:					
[illegible]	[illegible]	[illegible]	11	14.1	11
Congaree:					
[illegible]	[illegible]	11	13	120.5	12
[illegible]:					
[illegible]	10	[illegible]	1	15.7	Dec 23
Edisto:					
Givhans Ferry, SC	10	[illegible]	2 20	12.1 10.6	Dec 19 11
Savannah:					
Millhaven-Wade 2 SE, GA	[illegible]	Dec 5	2	17.2	Dec 18
[illegible]	11	Nov 29	[illegible]	15.9	Dec 22
Ogeechee:					
Scarboro, GA	8	Dec 29 [illegible]	1 11	8.1 8.3	Dec 30 [illegible]
Eden, GA	[illegible]	Dec 3	30	10.7	Dec 25
[illegible]:					
Waycross, GA	[illegible]	[illegible]	10	16.7	8
EAST GULF OF MEXICO DRAINAGE					
[illegible]:					
[illegible]	17	Dec 22	Feb 1	A18.54	19
Ochlockonee:					
Havana, FL	25	[illegible]	[illegible]	25.65	[illegible]
Apalachicola:					
[illegible]	[illegible]	Dec 28 6 12	[illegible] [illegible] 22	17.05 16.38 19.12	Dec 30 9 18
Black Warrior:					
Warrior Lock and Dam, AL	30	12	12	30.9	12
Tombigbee:					
Coffeeville Lock and Dam, AL	[illegible]	12	22	[illegible]	[illegible]
Pearl:					
Jackson, MS	18	12	24	[illegible]	18
Bogalusa, LA	15	[illegible]	[illegible]	[illegible]	[illegible]
EAST GULF OF MEXICO DRAINAGE-Cont'd					
Pearl-Continued:					
Pearl River, LA	12	[illegible]	1	[illegible]	19
MISSOURI RIVER BASIN					
Missouri River:					
[illegible]	16	[illegible]	[illegible]	18.20	23
St. Joseph, MO	17	[illegible] 27	[illegible] [illegible]	[illegible] 17.6	[illegible] 28
LOWER MISSISSIPPI BASIN					
Big Black:					
West, MS	12	[illegible]	[illegible]	[illegible]	[illegible]
RED BASIN					
[illegible]:					
[illegible]	22	20	23	22.90	22
WEST GULF OF MEXICO DRAINAGE					
Calcasieu:					
Hineston, LA	12	9	[illegible]	[illegible]	[illegible]
Neches:					
[illegible]	10	[illegible] 9	[illegible]	[illegible]	Dec 29
Guadalupe:					
[illegible]	20	Nov [illegible] 13 [illegible]	[illegible] 21 1	26.6 21.2 [illegible]	Dec 11 [illegible] [illegible]
Nueces:					
Calallen, TX	7	26	27	7.0	26
PACIFIC SLOPE DRAINAGE					
Portneuf:					
Pocatello, ID	[illegible]	[illegible]	[illegible]	10.95	16
[illegible]:					
Snohomish, WA	25	18	[illegible]	26.8	[illegible]

A See previous monthly reports for additional crest information.

RAWINSONDE DATA

Average monthly values

JANUARY 1977

ALBANY, NY
1000 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	86	-11.5	-15.4	28	2.7
1000	[illegible]	148	-9.9	-14.7	29	3.4
950	31	483	-11.6	-15.4	29	7.6
900	31	896	-13.6	-17.2	29	11.7
850	31	1,331	-14.0	[illegible]	29	[illegible]
800	31	[illegible]	-15.2	-19.5	29	[illegible]
750	31	2,277	-15.9	-21.7	29	13.3
700	31	2,796	-17.4	-24.7	28	[illegible]
650	31	3,349	-19.6	-27.5	29	17.5
600	31	[illegible]	-23.0	-31.4	27	[illegible]
550	31	4,573	-26.6	-35.8	27	[illegible]
500	31	5,255	-30.8	-40.2	27	24.5
450	31	5,995	-36.0	-43.1	27	25.5
400	31	[illegible]	[illegible]	-46.6	27	26.4
350	31	[illegible]	-46.2		27	27.5
300	31	[illegible]	-50.4		27	28.4
250	31	9,896	-53.2		27	28.9
200	31	11,337	-52.1		27	28.0
175	31	12,204	-51.0		26	28.1
150	31	[illegible]	-51.9		26	26.0
125	31	14,382	-53.7		26	24.8
100	31	[illegible]	-55.6		26	22.8
80	30	17,230	-55.0		26	18.8
70	29	18,081	-55.0		25	16.6
60	28	[illegible]	-53.5		25	[illegible]
50	28	20,245	-52.2		25	14.2
40	[illegible]	21,696	-49.9		23	[illegible]
30	27	23,590	-48.5		24	12.1
25	26	[illegible]	-48.6		23	11.0
20	[illegible]	[illegible]	-48.5		24	10.9
15	20	[illegible]	-50.3		26	9.0
10	[illegible]	30,795	-51.3		29	9.1
7	11	[illegible]	-48.9			

ALBUQUERQUE, NM
838 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	1,619	-4.4	-7.9	01	2.4
800	31	1,986	-1.3	-10.1	34	3.8
750	31	2,498	-3.3	-12.3	[illegible]	5.8
700	31	3,042	-5.4	-15.8	30	[illegible]
650	31	3,621	-7.9	-19.4	29	[illegible]
600	31	4,240	[illegible]	[illegible]	29	11.3
550	31	4,902	-15.1	-28.2	29	[illegible]
500	31	5,616	[illegible]	[illegible]	28	14.9
450	31	6,390	-25.2	-36.4	28	17.5
400	31	7,235	-31.4	-42.3	27	[illegible]
350	31	8,170	-38.0	-46.9	27	23.3
300	31	9,212	-45.4		27	26.9
250	31	10,409	-52.8		27	33.5
200	29	11,840	-58.0		27	[illegible]
175	29	12,681	-58.2		27	38.5
150	29	13,650	-59.2		27	35.1
125	28	14,790	-61.1		27	31.3
100	28	16,165	-64.4		[illegible]	26.3
80	28	17,523	-65.8		28	20.9
70	27	18,337	-64.9		28	16.8
60	27	19,278	-64.3		28	13.6
50	27	20,396	-62.5		29	12.1
40	24	21,787	-59.9		27	[illegible]
30	23	23,606	-56.8		26	11.7
25	22	24,767	-55.2		26	11.2
20	19	26,189	-51.5		26	[illegible]
15	17	28,061	-49.8		24	14.8
10	7	30,697	-46.7			

AMARILLO, TX
892 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	1,095	-5.5	-11.7	30	2.1
850	31	1,472	-1.7	-12.1	32	4.1
800	31	1,956	-.6	-13.6	32	4.3
750	31	2,471	-1.9	-15.6	30	6.0
700	31	3,017	-4.5	-17.8	29	9.2
650	31	3,598	-7.4	-20.6	29	11.7
600	31	4,217	-10.9	-24.2	29	14.4
550	31	4,881	-14.7	-28.2	28	17.4
500	31	5,596	-19.6	-31.7	28	20.1
450	31	6,369	-25.4	-36.2	28	21.9
400	31	7,213	-31.6	-41.5	27	23.8
350	31	8,148	-38.4	[illegible]	27	26.0
300	31	9,189	-45.8		27	[illegible]
250	31	10,381	-53.6		27	33.7
200	31	11,798	-58.7		26	41.7
175	31	12,637	-58.5		27	41.8
150	31	13,606	-58.8		27	41.5
125	31	14,747	-60.9		27	34.3
100	31	16,122	-64.6		27	33.0
80	30	17,479	-66.2		28	22.7
70	30	18,291	-65.0		28	17.8
60	28	19,234	-63.7		28	17.4
50	26	20,364	-62.0		27	13.7
40	24	21,756	-59.1		26	10.4
30	24	23,573	-56.1		25	9.5
25	21	24,743	-53.4		24	9.0
20	20	26,181	-51.2		24	11.1
15	18	28,063	-50.8		22	12.0
10	11	30,710	-51.4			

* ANCHORAGE, AK
1002 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	45	.3	-4.3	12	.5
1000	20	102	-.1	-4.5	13	1.6
950	31	471	1.6	-4.6	14	4.3
900	31	906	.0	-6.2	14	7.8
850	31	1,362	-2.7	-8.4	15	9.0
800	31	1,840	-6.0	-10.6	15	9.9
750	31	2,343	-8.7	-14.0	16	10.0
700	31	2,875	-11.5	-17.6	18	10.3
650	31	3,439	-15.0	-21.4	19	10.6
600	31	4,041	-18.6	-24.1	19	11.4
550	31	4,684	-22.8	-29.7	19	12.1
500	31	5,377	-27.2	-34.2	20	13.3
450	31	6,128	-32.6	-39.7	20	14.7
400	31	6,948	-38.3	-44.3	20	16.3
350	31	7,857	-44.7		21	19.1
300	31	8,868	-52.2		22	20.3
250	31	10,030	-58.3		21	20.1
200	30	11,439	-55.2		22	14.9
175	30	12,194	-53.7		21	11.3
150	30	13,288	-52.7		21	9.6
125	30	14,468	-52.5		21	8.5
100	30	15,908	-53.3		22	5.1
80	25	17,378	-54.2		23	2.8
70	25	18,234	-54.4		24	2.0
60	25	19,219	-55.5		29	2.0
50	24	20,391	-55.9		32	3.0
40	24	21,806	-57.3		34	5.0
30	22	23,644	-58.7		36	7.7
25	19	24,778	-59.3		36	9.9
20	15	26,186	-59.9		01	14.3
15	8	28,007	-60.1			

* ANNETTE, AK
1016 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	37	2.6	.3	[illegible]	2.4
1000	30	167	2.2	.2	12	2.8
950	31	576	[illegible]	-2.3	15	4.0
900	31	1,010	.1	-5.7	20	3.4
850	31	1,467	[illegible]	[illegible]	23	4.6
800	31	1,948	-3.4	-14.3	24	5.4
750	31	2,457	-5.2	-16.8	25	7.0
700	31	2,996	-7.8	-19.5	26	8.9
650	31	3,569	[illegible]	-23.2	27	[illegible]
600	31	4,181	-14.4	-26.3	[illegible]	[illegible]
550	31	4,835	-18.6	-29.3	27	12.0
500	31	5,539	-23.5	[illegible]	27	13.6
450	31	6,301	-29.0	-35.7	27	15.0
400	31	7,133	-35.1	[illegible]	28	15.5
350	31	8,052	-42.3	-45.9	28	17.3
300	31	9,074	-50.4		28	19.2
250	31	10,240	-58.6		28	22.6
200	31	11,625	-62.6		28	19.3
175	31	12,451	-60.8		28	17.3
150	31	13,418	-57.6		28	15.3
125	31	14,572	-57.2		29	15.8
100	31	15,979	-58.8		30	12.7
80	26	17,413	-59.1		31	10.7
70	26	18,250	-59.2		31	9.9
60	25	19,217	-59.5		[illegible]	9.8
50	24	20,367	-59.9		32	8.7
40	20	21,755	-60.2		33	10.5
30	15	23,554	-61.4		34	12.4
25	14	24,697	-61.7		35	12.1
20	13	26,074	-62.8		35	13.9
15	7	27,890	[illegible]			

ATHENS, GA
988 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	246	-3.2	-8.3	28	2.2
1000						
950	31	556	-2.1	-9.3	29	5.9
900	31	985	-2.4	-11.1	30	8.8
850	31	[illegible]	-2.4	-13.1	29	11.4
800	30	1,921	-3.0	-13.9	28	[illegible]
750	30	[illegible]	-4.3	-16.1	28	18.6
700	30	2,972	[illegible]	-18.4	28	21.8
650	30	3,548	-9.2	-21.1	27	24.9
600	30	4,164	-12.3	-24.4	27	28.5
550	30	[illegible]	-16.2	-28.1	27	31.7
500	30	[illegible]	[illegible]	-31.6	27	34.4
450	30	6,306	-25.4	-35.1	27	37.4
400	29	[illegible]	-30.9	-41.2	27	43.8
350	29	8,086	-37.2	-44.7	27	46.7
300	29	9,132	-44.4	-48.6	27	50.1
250	29	10,334	-51.2		27	57.5
200	29	11,767	-55.6		27	57.0
175	29	12,618	-56.2		27	56.1
150	29	13,593	-58.0		27	49.1
125	29	14,733	-61.4		27	43.3
100	27	16,098	-64.3			
80	[illegible]	[illegible]	-65.2			
70	[illegible]	18,287	-64.1			
60	[illegible]	19,234	-62.6			
50	23	[illegible]	-59.2			
40	23	21,776	-55.5			
30	[illegible]	23,632	-51.0		19	5.6
25	[illegible]	24,822	-50.2		18	6.1
20	20	26,260	-50.4		16	6.6
15	[illegible]	[illegible]	-50.1		15	8.5
10	15	[illegible]	-48.7		14	9.7

* BARROW, AK
1023 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	29	8	-22.1	-24.4	06	6.1
1000	29	176	-21.6	-23.3	07	8.7
950	29	557	-17.9	-21.4	08	10.8
900	29	969	-15.6	-21.6	09	9.7
850	29	1,396	-14.8	-20.7	08	7.9
800	29	1,854	-16.0	-22.9	08	6.0
750	29	2,339	-17.7	-24.6	08	4.1
700	29	2,853	-20.1	-27.6	07	2.5
650	29	3,399	-22.8	-31.3	04	1.2
600	29	3,982	-26.2	-34.7	32	1.0
550	29	4,607	-30.1	-38.3	28	2.0
500	29	5,279	-34.3	-41.4	27	2.6
450	29	6,009	-39.0	-43.2	27	4.4
400	29	6,808	-44.4		26	5.3
350	29	7,696	-49.4		26	4.9
300	29	8,695	-52.5		28	5.4
250	29	9,874	-51.7		26	2.7
200	28	11,329	-50.2		28	3.3
175	28	12,203	[illegible]			
150	27	13,205	-49.8			
125	26	14,392	-50.4			
100	24	15,840	-51.6			
80	5	17,294	-52.0			
70	5	18,157	[illegible]			

BARTER ISLAND, AK
1020 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	30	15	-23.2	[illegible]	09	4.4
1000	29	163	-22.6	[illegible]	09	[illegible]
950	30	537	-18.2	-20.4	10	7.6
900	30	945	-14.3	-19.4	11	[illegible]
850	30	1,379	-14.1	-20.2	11	[illegible]
800	30	1,839	-14.8	-21.9	13	.9
750	30	2,326	-16.5	-24.5	27	1.3
700	30	2,842	-19.1	-26.6	27	2.4
650	30	3,390	-22.0	[illegible]	27	3.7
600	30	3,975	-25.4	-32.8	27	5.3
550	30	4,602	-28.9	-35.9	27	[illegible]
500	29	5,285	-32.8	-39.6	27	8.1
450	29	6,020	-37.4	-42.9	28	9.7
400	29	6,824	-43.1	-48.9	27	11.1
350	29	7,715	-48.6		27	12.3
300	29	8,717	-52.2		27	14.0
250	29	9,896	-52.3		27	10.4
200	29	11,346	-50.2		28	8.0
175	29	12,219	-50.1		29	6.9
150	29	13,225	-50.4		29	6.8
125	28	14,415	-51.1		30	5.6
100	28	15,863	-52.1		32	2.6
80	20	17,280	-54.0		32	3.8
70	[illegible]	18,136	-55.0		32	[illegible]
60	[illegible]	19,118	-56.2		33	4.8
50	[illegible]	20,273	-57.5		33	6.0
40	18	21,686	-59.4		34	7.5
30	18	23,477	-61.5		35	10.6
25	18	24,606	-62.2		34	12.5
20	14	26,010	-61.9		33	17.4
15	5	27,879	-65.1			

BETHEL, AK
994 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	29	39	-6.1	-8.6	05	5.3
1000	11	81	-7.2	-10.4	04	6.0
950	29	395	-.4	-4.9	10	7.5
900	29	828	-1.0	-7.1	13	8.3
850	29	1,282	-3.7	-11.0	14	[illegible]
800	29	1,759	-6.3	-15.5	15	9.3
750	29	2,261	-9.1	-18.4	15	9.8
700	29	2,791	-12.4	-21.9	15	9.9
650	29	3,354	-16.3	-24.9	15	9.7
600	29	3,951	[illegible]	-28.3	15	10.5
550	29	4,589	-24.6	-33.2	15	[illegible]
500	29	5,277	-29.2	-37.8	16	[illegible]
450	29	6,022	-34.4	-41.3	16	12.4
400	28	6,834	-40.2	-46.6	17	14.2
350	27	7,740	-46.4		17	16.6
300	27	8,748	-52.0		18	17.7
250	27	9,918	-55.0		18	15.1
200	27	11,351	-52.0		17	13.8
175	27	12,220	-50.3		17	11.3
150	27	13,228	-49.9		17	[illegible]
125	27	14,421	-49.8		17	9.0
100	27	15,879	-50.3		17	[illegible]
80	27	17,331	-51.3		17	[illegible]
70	26	18,203	-51.4		16	4.6
60	25	19,211	-52.1		16	3.7
50	24	20,404	-52.4		17	2.0
40	23	21,852	-53.6		07	.8
30	21	23,695	-55.2		01	3.3
25	18	24,883	-55.2		01	5.9
20	14	26,341	-55.8		04	8.1
15	5	28,192	-54.8			

* BISMARCK, ND
958 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	503	-19.2	-22.8	29	3.0
1000						
950	29	577	-18.7	-21.7	30	3.8
900	31	975	-15.4	-18.3	32	8.3
850	31	1,408	-13.7	-19.6	32	10.6
800	31	1,869	-13.9	-20.8	32	12.1
750	31	2,359	-15.1	-22.9	32	13.3
700	31	2,879	-17.0	-25.5	32	15.6
650	31	3,432	-19.6	-28.4	32	17.4
600	31	4,023	[illegible]	-31.2	[illegible]	19.3
550	31	4,657	-26.3	-34.5	[illegible]	20.1
500	31	5,340	-30.8	-38.0	[illegible]	20.0
450	31	6,081	-35.6	-38.6	31	22.6
400	31	6,890	[illegible]	-44.6	31	23.8
350	31	7,788	-47.2		32	25.6
300	31	8,793	-52.6		31	28.0
250	31	9,961	-55.6		31	[illegible]
200	31	11,383	-55.7		31	25.9
175	31	12,235	-55.0		31	24.1
150	31	13,220	-54.9		31	23.0
125	31	14,383	-56.1		30	22.5
100	28	15,793	-58.0		31	20.9
80	27	17,200	-58.9		30	18.9
70	26	18,041	-59.5		30	16.8
60	25	19,002	-60.0		30	16.1
50	24	20,147	-59.5		29	15.4
40	22	21,560	-59.0		28	12.4
30	16	23,385	-56.3		26	[illegible]
25	14	24,549	-53.9		25	[illegible]
20	12	26,015	-52.8		23	13.1
15	7	27,943	-45.8			

BOISE, ID
922 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	[illegible]	-8.0	-10.8	21	.4
1000						
950						
900	30	1,065	-6.1	-7.9	16	.7
850	31	1,506	-4.5	-8.1	33	.9
800	31	1,985	-3.9	-12.4	31	3.0
750	31	2,494	-5.0	-14.8	30	4.9
700	31	3,034	-7.0	-17.1	30	6.2
650	31	[illegible]	-10.1	[illegible]	31	7.5
600	31	4,222	-13.3	-23.5	31	8.7
550	31	[illegible]	-17.5	-26.9	30	9.8
500	31	5,587	-22.4	-31.4	31	11.1
450	31	6,352	-27.7	-36.9	31	12.5
400	31	7,189	-33.9	-42.1	31	14.4
350	31	8,114	-40.8	-43.9	[illegible]	[illegible]
300	31	9,143	-48.7		32	15.1
250	31	10,319	-56.6		32	16.6
200	31	11,715	[illegible]		31	[illegible]
175	31	[illegible]	-60.8		31	[illegible]
150	31	13,508	-58.9		30	17.6
125	31	14,652	-59.0		30	16.4
100	31	[illegible]	-60.7		30	15.1
80	30	17,427	-61.5		31	13.1
70	[illegible]	[illegible]	-61.7		31	12.6
60	[illegible]	[illegible]	-62.3		31	11.7
50	30	[illegible]	-62.7		32	[illegible]
40	[illegible]	[illegible]	-62.7		32	9.5
30	27	23,487	-61.9		32	9.6
25	26	24,618	-60.9		32	8.3
20	24	26,007	-59.2		30	[illegible]
15	17	[illegible]	-55.3		27	5.8
10	[illegible]	30,567	-51.2			

BOOTHVILLE, LA
1019 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	29	1	6.8	4.1	01	2.0
1000	29	158	7.3	3.2	01	2.1
950	29	579	6.5	-.1	30	2.7
900	29	1,024	[illegible]	-3.4	29	6.8
850	29	1,495	6.5	-4.7	28	9.7
800	29	1,990	4.3	-6.0	28	11.8
750	29	2,514	2.4	-9.0	28	13.5
700	29	3,070	.4	-12.0	27	17.6
650	29	3,661	-2.5	-15.5	27	20.7
600	29	4,293	-5.8	-18.4	27	22.5
550	29	4,970	-9.5	-22.7	27	26.1
500	29	5,700	-14.2	-25.3	27	30.1
450	29	6,492	-19.0	[illegible]	27	35.0
400	29	7,359	-24.9	-35.4	27	39.2
350	29	8,321	-31.2	-41.6	27	43.0
300	29	9,392	-39.5	-45.2	27	45.6
250	29	10,618	-47.9		27	50.8
200	27	12,063	-56.1		27	56.3
175	27	12,906	-59.3		27	53.4
150	27	13,865	-62.7		27	45.7
125	27	14,978	-66.6		27	42.4
100	26	16,317	-70.4		27	30.7
80	24	17,634	-71.4		27	22.4
70	24	18,425	-70.2		27	16.2
60	23	19,348	-67.4		27	9.5
50	22	20,464	-62.9		[illegible]	4.9
40	22	21,855	-57.9		26	1.9
30	21	23,690	-54.0		13	3.8
25	21	24,865	-52.5		12	5.8
20	20	26,315	-51.7		10	9.7
15	18	28,182	-50.7		10	9.7
10	14	30,836	-46.9		21	4.6

* BROWNSVILLE, TX
1018 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	7	10.2	8.3	34	2.1
1000	31	155	11.2	8.7	02	2.4
950	31	585	11.5	7.6	08	2.2
900	31	1,037	11.3	3.7	20	1.7
850	31	1,514	9.9	1.2	24	4.4
800	31	2,017	9.0	-3.0	25	6.3
750	31	2,550	7.2	-6.8	26	7.5
700	31	3,115	4.4	-10.6	27	10.4
650	31	3,715	1.1	-14.1	27	13.5
600	31	4,355	-2.7	-18.5	26	15.8
550	31	5,040	-6.8	-21.3	26	18.6
500	31	5,777	-11.4	-25.3	26	21.4
450	31	6,578	-16.5	-29.4	26	25.8
400	31	7,453	-22.7	[illegible]	26	29.4
350	31	8,422	-29.3	-39.9	26	35.7
300	31	9,503	-37.7	-46.5	26	[illegible]
250	31	10,735	-46.9		26	46.6
200	31	12,179	-56.9		26	49.9
175	31	13,017	-61.0		26	[illegible]
150	29	13,965	-65.0		26	45.0
125	28	15,064	-69.4		26	41.0
100	27	[illegible]	-74.0		26	32.6
80	23	[illegible]	-76.7		27	21.9
70	21	18,443	-75.8		27	14.6
60	20	19,341	-72.2		27	10.0
50	19	20,432	-66.1		26	[illegible]
40	19	21,804	-60.5		24	4.1
30	19	23,618	-55.5		17	2.1
25	18	24,786	-54.0		13	3.2
20	18	26,222	-52.8		09	6.9
15	16	28,081	-50.9		10	9.1
10	13	30,730	-49.4		14	[illegible]

BUFFALO, NY
985 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	218	-11.2	-13.8	24	5.3
1000						
950	31	495	-12.8	-14.4	25	[illegible]
900	31	906	-14.9	-15.9	26	11.3
850	31	1,337	-15.7	-17.6	26	12.3
800	31	1,795	-15.8	-20.3	27	13.0
750	31	2,280	-17.1	-22.2	27	13.7
700	31	2,796	-18.6	-26.1	28	15.5
650	31	3,347	-20.7	-28.9	28	[illegible]
600	31	3,936	-23.5	-31.7	28	17.2
550	31	4,567	-27.1	-35.2	28	18.1
500	31	5,248	-31.5	-39.1	27	19.6
450	31	5,986	-36.1	-42.6	27	21.2
400	31	6,795	-41.8	-46.7	27	21.9
350	31	7,691	-47.1		27	24.1
300	31	8,699	-51.4		27	27.9
250	31	9,877	-53.3		28	29.1
200	31	11,316	-52.4		27	25.6
175	31	12,180	-52.4		27	24.6
150	31	13,176	-52.9		27	24.2
125	31	14,349	-53.9		27	23.3
100	28	15,794	-55.4		27	22.4
80	27	17,211	-56.3		26	19.6
70	27	18,060	-56.1		26	20.2
60	26	19,049	-54.7		26	16.8
50	23	20,224	-52.1		26	13.8
40	23	21,674	-50.5		25	12.5
30	22	23,563	-48.9		24	10.3
25	19	24,736	-49.7		24	11.5
20	16	26,193	-49.8		24	9.7
15	6	28,005	-50.6			

CAPE HATTERAS, NC
1015 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed mps
SFC	31	4	-.2	-5.6	32	3.2
1000	29	134	-1.1	-8.7	33	5.0
950	31	535	-1.9	-9.5	31	7.2
900	31	964	-2.7	-12.8	29	8.0
850	31	1,417	-3.2	-15.5	28	9.9
800	31	1,896	-4.8	-17.3	28	13.2
750	31	2,403	5.6	-18.9	27	16.7
700	31	2,942	-7.3	-20.8	27	20.6
650	31	3,517	-9.7	-23.1	27	23.5
600	31	4,131	-13.3	-25.9	27	25.9
550	31	4,788	-17.3	-30.0	27	30.7
500	31	5,496	-21.9	-34.1	27	33.6
450	31	6,264	-26.8	-38.2	27	38.5
400	31	7,105	-32.5	[illegible]	27	40.1
350	31	8,036	-38.8	-45.6	27	44.6
300	31	9,076	-45.8		27	47.8
250	29	10,271	-51.5		27	53.2
200	27	11,699	-54.1		27	53.5
175	24	12,543	-54.4		27	49.5
150	23	13,532	-56.5		[illegible]	50.0
125	21	14,681	-59.1		27	43.6
100	20	16,063	-62.6			
80	16	17,430	[illegible]			
70	16	18,254	[illegible]			
60	15	19,213	-60.1			
50	15	20,358	-57.8			
40	15	21,782	-53.7		25	9.9
30	14	23,652	-50.0		15	5.9
25	13	24,844	-48.7		13	7.6
20	12	26,320	-49.7			
15	9	28,194	-52.1			

RAWINSONDE DATA

Average monthly values

JANUARY 1977

* CARIBOU, ME
981 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	191	-16.4	-21.8	27	2.4
1000						
950	30	429	-15.2	-17.7	28	4.2
900	30	837	-15.7	-19.1	29	7.6
850	30	1,268	-15.8	-19.9	29	8.8
800	30	1,725	-16.2	-20.8	29	7.7
750	30	2,210	-17.5	-22.9	28	8.8
700	30	[illegible]	-19.8	-25.7	27	10.2
650	30	3,273	-21.9	-28.5	26	11.1
600	30	[illegible]	-25.2	-30.6	26	[illegible]
550	30	4,485	-28.7	-34.3	26	13.9
500	30	5,162	-32.9	-38.3	26	15.5
450	30	5,897	-37.4	-42.2	26	16.6
400	30	[illegible]	-42.5	-45.2	26	17.0
350	30	7,597	-46.9		26	18.0
300	30	8,606	-51.2		25	17.4
250	29	9,794	-52.8		25	19.9
200	29	11,238	-51.4		26	19.0
175	27	12,123	-51.0		26	18.5
150	27	13,125	-51.8		25	16.9
125	26	14,316	-52.6		26	16.8
100	26	15,754	-53.6		26	16.1
80	25	[illegible]	-54.6		26	13.9
70	[illegible]	18,036	-54.4		26	12.7
60	[illegible]	19,043	-53.9		26	11.5
50	20	20,226	-53.3		26	11.5
40	19	21,680	-52.4		26	12.5
30	19	23,543	-51.6		27	15.5
25	17	24,748	-51.5		27	19.8
20	16	26,211	-52.4		27	24.6
15	11	28,110	-53.3		28	24.9
10						

CENTREVILLE, AL
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	140	-1.8	-6.8	35	1.6
1000	21	196	-3.8	-10.3	36	2.2
950	31	577	-1.4	-7.9	32	3.5
900	31	1,008	-.8	-10.4	30	6.1
850	31	1,465	-.9	-12.6	29	9.3
800	31	1,949	-1.3	-14.6	28	12.7
750	31	2,462	-3.1	-14.9	28	16.2
700	31	3,006	-5.2	-16.5	28	19.5
650	31	3,585	-7.9	-19.0	27	22.5
600	31	4,204	-11.1	-22.5	27	26.1
550	31	4,867	-14.7	-26.9	27	29.3
500	31	5,583	-19.2	-30.6	27	33.6
450	31	6,359	-24.0	-35.0	27	37.0
400	31	7,209	-29.7	-40.0	27	41.5
350	31	8,157	-36.2	-44.4	27	46.8
300	30	9,207	-43.6		27	51.9
250	29	10,406	-51.1		27	60.9
200	28	11,838	-56.6		27	65.2
175	28	12,683	-57.6		27	60.7
150	28	13,653	-59.3		27	55.7
125	28	14,786	-62.5		27	47.5
100	27	16,145	-66.6		27	40.2
80	25	17,501	-67.8		27	31.0
70	23	18,302	-66.6		27	26.2
60	23	19,239	-64.7		27	21.4
50	22	20,362	-61.5		27	13.5
40	22	21,760	-57.2		26	11.8
30	21	23,593	-52.7		23	10.2
25	21	24,775	-51.0		22	7.7
20	21	26,231	-50.3		20	5.7
15	19	28,106	-50.6		17	5.5
10	12	30,745	-48.7		27	4.1

CHARLESTON, SC
1017 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	13	.6	-5.3	31	2.0
1000	31	145	1.1	-5.9	32	3.0
950	31	558	.7	-7.5	30	5.7
900	31	991	-.1	-9.4	28	8.3
850	31	1,449	-.1	-14.1	28	11.6
800	31	1,934	-.8	-16.3	27	14.1
750	31	2,448	-2.6	-16.0	27	17.5
700	31	2,993	-4.8	-17.3	27	20.9
650	31	3,573	-7.3	-20.1	27	23.7
600	31	4,193	-10.4	-23.5	27	27.6
550	31	4,858	-14.4	-26.4	27	31.3
500	31	5,574	-19.2	-31.0	27	34.4
450	31	6,351	-23.8	-34.0	27	39.5
400	31	7,202	-29.5	-39.1	27	44.2
350	31	8,146	-35.8	-43.0	27	49.3
300	31	9,199	-43.0	-47.3	27	56.0
250	31	10,407	-50.3		27	62.8
200	31	11,843	-56.1		27	66.6
175	31	12,690	-57.5		27	62.5
150	31	13,659	-60.0		27	58.6
125	30	14,796	-62.7		27	50.4
100	29	16,160	-66.4		27	40.1
80	28	17,512	-67.1		27	29.6
70	28	18,321	-65.3		27	24.2
60	28	19,261	-64.5		27	18.9
50	27	20,390	-60.1		26	13.2
40	27	21,798	-55.9		25	8.8
30	26	23,644	-51.7		22	5.5
25	23	24,842	-50.5		17	2.6
20	22	26,304	-50.5		12	6.7
15	20	28,175	-50.2		12	9.8
10	15	30,843	-49.9		09	11.0

CHATHAM, MA
1006 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	16	-6.1	-10.4	28	3.7
1000	22	94	-5.6	-10.9	29	3.5
950	30	466	-7.9	-13.1	29	7.5
900	30	885	-9.7	-15.7	28	8.1
850	30	1,326	-10.8	-17.7	27	10.1
800	30	1,791	-12.0	-19.3	28	12.3
750	30	2,283	-14.0	-21.2	27	14.7
700	30	2,805	-16.4	-24.0	27	16.3
650	30	3,360	-18.9	-26.6	27	17.6
600	30	3,952	-22.3	-31.4	27	18.7
550	30	4,588	-25.9	-36.1	27	19.9
500	30	5,271	-30.4	-40.5	27	22.8
450	30	6,014	-34.8	-44.3	27	25.8
400	30	6,827	-40.1	-48.6	26	28.0
350	30	7,731	-45.1		26	31.2
300	30	8,747	-49.8		26	33.7
250	30	9,932	-52.1		26	34.2
200	30	11,378	-51.8		26	33.6
175	29	12,246	-51.4		26	33.2
150	29	13,246	-52.6		26	30.5
125	29	14,421	-53.7		26	30.0
100	28	15,855	-55.7		26	25.5
80	28	17,275	-56.2		25	21.6
70	26	18,124	-55.0		25	19.5
60	25	19,104	-54.3		25	16.5
50	22	20,276	-52.7		25	13.2
40	21	21,731	-50.1		24	11.7
30	20	23,630	-48.4		24	9.8
25	20	24,831	-48.5		25	10.5
20	18	26,281	-49.1		25	9.8
15	11	28,174	-49.6		26	12.2
10	5	30,786	-50.3			

CHIHUAHUA, MEXICO
857 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	29	1,428	4.3	-1.4	23	1.5
1000						
950						
900						
850	29	1,497	5.9	-3.5	23	1.6
800	29	1,995	6.4	-4.3	25	4.0
750	29	2,523	3.8	-7.5	25	6.8
700	29	3,081	1.7	-12.3	26	11.2
650	29	3,675	-1.1	-16.2	26	12.6
600	29	4,309	-5.1	-20.5	26	13.7
550	29	4,986	-9.7	-25.6	26	15.6
500	29	5,715	-15.0	-29.0	26	18.7
450	29	6,503	-20.4	-33.5	25	19.9
400	29	7,365	-26.5	-39.5	25	22.5
350	29	8,319	-33.2	-43.1	26	26.6
300	29	9,383	-40.6	-45.3	26	32.7
250	29	10,603	-48.6		25	41.0
200	29	12,044	-56.4		26	40.8
175	29	12,885	-59.9		26	40.5
150	29	13,841	-63.2		26	39.8
125	29	14,954	-66.4		26	32.7
100	28	16,291	-70.7		26	26.1
80	24	17,604	-71.6		26	21.6
70	23	18,392	-71.1		27	17.0
60	21	19,309	-68.1		27	10.5
50	18	20,410	-64.9			
40	17	21,794	-60.5			
30	15	23,603	-56.5			
25	14	24,760	-53.8			
20	10	26,204	-52.4			
15	6	28,049	-50.8			
10						

* COLD BAY, AK
985 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	30	1.8	-.1	13	4.4
1000						
950	30	319	.7	-1.2	13	7.2
900	30	751	-1.9	-3.6	13	9.0
850	30	1,204	-4.6	-7.0	14	10.0
800	30	1,679	-6.9	-9.9	14	10.7
750	30	2,181	-9.5	-13.6	14	10.3
700	30	2,711	-12.7	-17.8	14	10.7
650	30	[illegible]	-16.0	-21.8	14	11.0
600	30	3,872	-20.0	-26.7	15	10.6
550	30	4,511	-24.4	-30.7	14	11.9
500	30	5,199	-29.4	-36.1	14	14.0
450	29	5,947	-34.3	-40.2	14	14.8
400	29	6,760	-40.7	-42.5	14	16.4
350	29	7,660	-47.0		15	18.5
300	29	8,665	-52.5		15	19.3
250	29	9,838	-53.6		15	18.6
200	29	11,281	-50.8		16	15.4
175	29	12,152	-50.1		16	15.5
150	29	13,162	-49.2		16	14.0
125	22	14,367	-48.6		17	12.2
100	22	15,834	-49.5		17	8.5
80	19	17,280	-50.4		17	8.1
70	17	18,141	-50.7		17	7.4
60	12	19,116	-51.4		18	6.4
50	12	20,298	-52.6		18	3.9
40	11	21,724	-54.5		19	3.1
30	9	23,597	-56.2			
25	9	24,754	-57.0			
20	6	26,239	-55.5			
15						
10						

DAYTON, OH
980 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	299	-12.8	-16.3	25	3.5
1000						
950	31	537	-12.9	-14.9	26	6.0
900	31	950	-12.4	-16.4	28	9.6
850	31	1,386	-12.5	-16.3	28	12.1
800	31	1,850	-12.5	-18.0	28	13.1
750	31	2,342	-13.4	-20.2	28	14.7
700	31	2,865	-15.7	-23.6	28	16.0
650	31	3,422	-18.2	-26.5	28	17.9
600	31	4,016	-21.2	-29.8	28	19.5
550	31	4,654	-25.0	-33.7	28	21.4
500	31	5,340	-29.3	-36.8	28	24.2
450	31	6,086	-34.1	-39.2	28	26.8
400	31	6,902	-39.0	-43.8	28	30.1
350	31	7,810	-44.8		27	33.3
300	31	8,826	-49.8		27	37.1
250	30	10,003	-53.1		27	38.9
200	28	11,444	-53.4		27	36.6
175	27	[illegible]	-53.2		27	37.0
150	26	13,308	-54.2		27	34.2
125	25	14,462	-56.3		27	31.9
100	23	15,882	-58.9		27	28.6
80	22	17,276	-59.0		27	24.9
70	21	18,123	-58.8		27	21.2
60	19	19,074	-58.8		27	20.8
50	16	20,205	-57.6		26	18.1
40	14	21,610	-54.5		26	13.5
30	[illegible]	23,492	-50.4		23	11.9
25	9	24,710	-49.9			
20	8	26,197	-49.0			
15	6	28,106	-48.0			
10	5	30,786	-51.0			

DEL RIO, TX
983 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	314	4.5	1.4	08	1.2
1000						
950	31	588	5.5	-.7	13	1.8
900	31	1,031	5.9	-1.4	21	2.4
850	31	1,499	6.6	-2.1	25	4.2
800	31	1,998	6.4	-7.0	27	6.2
750	31	2,525	4.2	-9.4	28	8.8
700	31	3,083	1.6	-13.5	27	12.2
650	31	3,677	-1.6	-14.9	27	14.2
600	31	4,309	-5.7	-18.4	26	16.3
550	31	4,986	-9.9	-23.6	26	18.7
500	31	5,715	-14.7	-28.2	26	22.5
450	31	6,504	-20.0	-33.1	26	25.9
400	31	7,367	-25.9	-38.2	26	29.2
350	31	8,323	-32.8	-43.7	26	34.0
300	31	9,388	-40.3	-47.9	26	40.4
250	31	10,609	-48.9		26	47.4
200	31	12,045	-57.6		26	50.3
175	31	12,883	-60.6		26	47.4
150	31	13,836	-63.1		26	43.4
125	30	14,950	-67.0		27	37.8
100	30	16,283	-70.8		27	30.0
80	29	17,599	-72.8		27	21.0
70	29	18,384	-71.9		27	17.9
60	26	19,300	-69.0		27	11.9
50	25	20,399	-65.3		27	7.4
40	25	21,772	-61.8		27	8.4
30	25	23,578	-56.1		25	5.9
25	25	24,745	-53.5		23	4.1
20	21	26,182	-52.3		24	5.5
15	21	28,048	-50.9		21	3.3
10	16	30,685	-49.9		20	4.1

DENVER, CO
835 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	1,611	-6.3	-12.3	17	.9
1000						
950						
900						
850						
800	31	1,946	-3.0	-13.6	27	2.8
750	31	2,457	-4.4	-16.4	30	6.9
700	31	2,997	-7.4	-19.5	30	9.1
650	31	3,571	-10.8	-22.4	31	11.9
600	31	4,182	-14.3	-26.1	31	14.5
550	31	4,837	-18.2	-29.5	31	16.1
500	31	5,542	-23.1	-33.5	31	16.6
450	31	6,305	-28.8	-38.3	30	18.2
400	31	7,138	-35.0	-43.9	30	19.8
350	31	8,058	-41.8	-47.3	30	21.2
300	31	9,084	-48.9		29	23.8
250	31	10,262	-55.5		29	25.6
200	31	11,668	-59.6		29	26.8
175	31	12,506	-58.7		28	26.7
150	31	13,477	-57.9		28	28.3
125	31	14,624	-59.2		28	26.8
100	31	16,016	-61.0		29	23.3
80	30	17,394	-62.6		28	19.8
70	30	18,217	-63.0		28	17.9
60	29	19,168	-62.1		29	15.9
50	29	20,297	-61.2		28	13.8
40	28	21,687	-60.9		27	12.4
30	27	23,490	-57.6		26	13.7
25	25	24,652	-55.6		26	12.6
20	23	26,095	-53.2		24	15.5
15	20	27,962	-52.0		24	20.0
10	13	30,605	-49.9			

DODGE CITY, KS
927 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	791	-8.4	-12.3	30	1.7
1000						
950						
900	31	1,017	-5.1	-12.0	32	4.3
850	31	1,467	-3.5	-13.8	33	6.4
800	31	1,946	-4.6	-15.0	32	7.8
750	31	2,453	-5.8	-16.9	32	10.4
700	31	2,991	-8.3	-19.5	31	13.6
650	31	3,563	-11.4	-22.1	30	15.0
600	31	4,174	-14.2	-25.6	30	16.7
550	31	4,829	-17.9	-29.3	30	18.9
500	31	5,536	-22.4	-34.2	29	21.9
450	31	6,302	-27.7	-39.3	29	23.6
400	31	7,137	-34.1	-45.2	29	25.9
350	31	8,062	-40.8	-49.2	29	29.1
300	31	9,092	-48.3		28	33.9
250	31	10,273	-55.1		28	37.3
200	30	11,683	-58.2		28	40.6
175	29	12,517	-57.8		28	39.1
150	29	13,490	-57.9		27	37.5
125	29	14,638	-58.9		28	32.9
100	29	16,028	-61.9		28	29.0
80	29	17,403	-63.5		28	21.7
70	28	18,226	-62.9		28	18.4
60	26	19,184	-62.5		28	15.8
50	24	20,307	-61.5		28	13.3
40	21	21,702	-59.6		27	13.8
30	20	23,524	-56.0		26	12.6
25	20	24,689	-54.1		25	13.4
20	13	26,127	-51.0		23	14.2
15	14	27,991	-50.1		23	12.8
10						

EL PASO, TX
883 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	1,193	2.5	-4.1	33	1.3
1000						
950						
900						
850	31	1,498	4.6	-5.8	31	2.7
800	31	1,990	2.4	-7.7	28	4.8
750	31	2,510	-.2	-10.1	28	7.8
700	31	3,059	-2.9	-13.8	27	9.1
650	31	3,644	-5.3	-19.6	27	11.1
600	31	4,268	-9.2	-22.3	27	13.5
550	31	4,936	-12.9	-26.4	27	15.2
500	31	5,656	-17.8	-31.3	26	16.7
450	31	6,436	-23.2	-35.6	26	19.8
400	31	7,288	-29.4	-40.1	26	22.8
350	31	8,231	-36.2	-46.7	26	26.7
300	31	9,280	-43.8	-47.2	26	32.5
250	31	10,486	-51.0		26	38.6
200	31	11,913	-58.0		26	45.9
175	31	12,752	-59.4		26	43.6
150	31	13,714	-61.0		26	39.8
125	31	14,840	-63.7		27	35.2
100	31	16,196	-67.8		27	27.4
80	[illegible]	17,532	-69.7		27	22.0
70	[illegible]	[illegible]	-68.7		27	18.3
60	25	19,257	-66.6		28	12.1
50	25	20,366	-64.4		29	8.6
40	25	21,738	-61.9		28	8.7
30	23	23,546	-57.3		27	6.3
25	21	[illegible]	-54.6		25	7.3
20	19	26,151	-52.5		24	7.2
15	16	[illegible]	-50.8		24	8.1

ELY, NV
810 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	1,908	-11.8	-20.1	20	4.0
1000						
950						
900						
850						
800	30	2,007	-5.1	-10.5	20	2.4
750	31	2,512	-3.5	-12.5	32	.6
700	31	3,055	-5.8	-17.8	32	2.8
650	31	3,632	-8.7	-20.7	31	4.9
600	31	4,249	-12.1	-23.9	31	5.7
550	31	4,909	-16.3	-27.4	31	6.8
500	31	5,620	-21.2	-32.6	31	8.4
450	30	6,394	-26.3	-37.4	31	9.3
400	30	7,234	-32.9	-43.0	31	10.4
350	30	8,162	-39.9	-47.7	31	10.2
300	30	9,195	-48.0		31	11.4
250	30	10,377	-55.4		31	13.0
200	30	11,780	-60.5		29	16.2
175	27	12,615	-59.7		29	17.4
150	27	13,583	-58.9		28	19.3
125	26	14,726	-59.6		29	17.1
100	26	16,114	-61.8		29	15.1
80	25	17,487	-63.3		29	13.1
70	25	18,307	-63.9		30	11.2
60	24	19,251	-63.6		31	10.6
50	23	20,372	-62.1		30	9.4
40	21	21,755	-61.8		31	10.0
30	18	23,550	-60.3		29	9.0
25	18	24,690	-59.0		28	12.0
20	14	26,094	-56.8		27	14.2
15	10	27,928	-54.6		26	19.6

EMPALME, MEXICO
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	29	12	12.5	7.3	32	1.8
1000	29	135	15.9	7.9	34	2.7
950	29	572	15.6	4.5	35	3.3
900	29	1,029	12.9	1.4	31	1.9
850	29	1,506	10.2	-2.3	25	2.7
800	29	2,009	8.0	-6.3	24	3.9
750	29	2,539	5.5	-10.7	25	4.8
700	29	3,100	2.5	-14.4	25	6.8
650	29	3,695	-.8	-17.9	25	8.9
600	29	4,330	-4.8	-21.2	25	11.9
550	29	5,008	-9.4	-24.6	26	12.9
500	29	5,738	-14.3	-28.4	26	14.8
450	29	6,529	-19.9	-32.3	26	17.6
400	29	7,392	-26.1	-37.9	26	19.4
350	29	8,348	-32.8	-44.2	26	23.0
300	28	9,414	-40.8	-43.9	25	31.0
250	28	10,632	-49.1		25	38.5
200	28	12,072	-56.2		25	43.4
175	26	12,925	-58.5		25	39.8
150	26	13,889	-61.2		25	34.3
125	25	15,011	-65.2		26	31.5
100	23	16,353	-69.3		26	22.9
80	22	17,675	-71.9		27	16.5
70	20	18,466	-71.3		27	12.5
60	17	19,386	-68.5		28	8.7
50	16	20,492	-64.7		30	3.7
40	14	21,875	-61.0		23	1.0
30	14	23,680	-57.3		10	.7
25	13	24,832	-54.6		26	3.4
20	[illegible]	26,275	-52.6			

* FAIRBANKS, AK
993 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	31	135	-12.8	-15.9	01	1.3
1000	7	162	-8.9	-10.2		
950	31	481	-5.3	-10.7	10	3.1
900	31	906	-5.2	-11.8	13	4.0
850	31	1,355	-5.3	-13.6	16	3.1
800	31	1,829	-7.2	-15.5	20	3.9
750	31	2,330	-9.9	-18.1	22	5.7
700	31	2,859	-13.4	-20.7	22	8.6
650	31	3,419	-16.8	-24.5	23	9.8
600	31	4,016	-20.3	-28.9	24	10.4
550	31	4,656	-24.4	-32.4	24	11.1
500	31	5,344	-29.0	-37.4	24	13.2
450	31	6,090	-34.2	-41.7	24	15.8
400	31	6,904	-40.0	-45.3	24	17.9
350	31	7,805	-46.8		25	20.7
300	30	8,816	-53.6		25	23.1
250	30	9,977	-56.7		24	20.9
200	29	11,402	-54.7		24	13.2
175	29	12,260	-52.9		24	10.6
150	29	13,257	-52.1		24	8.2
125	28	14,443	-52.5		24	6.4
100	27	15,880	-53.7		26	3.8
80	26	17,320	-54.3		28	3.0
70	25	18,172	-54.8		31	2.2
60	22	19,137	-55.8		33	3.8
50	20	20,292	-56.9		34	5.4
40	20	21,701	-58.3		34	6.8
30	14	23,526	-59.4		34	13.3
25	7	24,721	-59.1			
20						
15						

FLINT, MI
984 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	236	-12.3	-15.5	25	3.4
1000						
950	30	501	-12.2	-13.7	27	6.7
900	30	912	-14.1	-16.3	29	9.2
850	30	1,345	-15.2	-19.8	29	10.7
800	30	1,802	-16.2	-22.2	29	12.2
750	30	2,287	-17.1	-24.4	29	13.2
700	30	2,803	-18.8	-27.3	29	14.4
650	30	3,352	-21.2	-30.0	28	15.6
600	30	3,940	-24.1	-33.4	28	16.8
550	30	4,570	-27.7	-37.3	28	18.3
500	30	5,249	-32.1	-41.3	28	20.0
450	30	5,986	-36.7	-44.6	28	22.0
400	30	6,793	-41.8	-47.8	28	23.9
350	30	7,690	-46.9		28	26.9
300	30	8,698	-51.4		28	29.5
250	30	9,875	-53.2		28	29.4
200	30	11,314	-52.7		28	29.0
175	30	12,176	-52.7		27	28.1
150	30	13,171	-53.1		28	26.6
125	30	14,342	-54.7		28	24.7
100	30	15,765	-56.1		27	21.8
80	29	17,174	-57.0		27	20.4
70	29	18,020	-56.7		27	18.7
60	29	18,999	-56.2		27	16.1
50	29	20,162	-54.6		25	13.0
40	29	21,596	-52.6		24	13.3
30	28	23,467	-50.7		23	13.4
25	26	24,654	-50.7		23	13.9
20	24	26,122	-49.9		23	17.4
15	17	28,070	-49.1		23	18.9

RAWINSONDE DATA

Average monthly values

JANUARY 1977

GLASGOW, MT
936 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	696	-17.0	-20.7	33	.8
1000						
950						
900	31	994	-12.2	-15.8	32	9.3
850	31	1,433	-10.7	-16.1	32	9.0
800	31	1,899	-11.0	-16.7	32	11.4
750	31	2,394	-12.8	-18.7	32	12.3
700	31	2,9[illegible]7	-15.2	-21.0	32	14.5
650	31	3,475	-17.9	-24.0	32	16.2
600	31	4,070	-21.0	-27.4	32	17.9
550	31	4,708	-24.7	-30.9	32	19.5
500	31	5,395	-29.3	-35.8	32	22.5
450	31	6,141	-33.6	-39.9	32	26.3
400	31	6,959	-39.0	-43.1	32	28.6
350	31	7,866	-45.0		32	31.6
300	31	8,877	-51.6		32	33.0
250	31	10,047	-56.0		32	32.2
200	31	11,460	-57.6		32	27.4
175	30	12,307	-56.6		32	24.4
150	30	13,286	-56.1		31	21.9
125	30	14,443	-56.7		31	21.6
100	30	15,852	-58.4		32	20.1
80	28	17,253	-59.1		32	17.9
70	28	18,090	-59.5		32	17.3
60	28	19,[illegible]54	-59.9		31	15.8
50	27	20,193	-60.5		31	13.7
40	24	21,595	-59.8		30	12.0
30	23	23,405	-57.9		28	12.3
25	22	24,550	-57.5		27	11.5
20	19	25,967	-55.7		24	13.3
15	10	27,838	-47.3		22	17.2
10						
7						

GRAND JUNCTION, CO
855 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,472	-7.8	-10.8	11	1.8
1000						
950						
900						
850	24	1,532	-6.0	-10.0	12	1.8
800	30	1,991	-4.5	-9.6	15	2.0
750	30	2,498	-6.4	-11.9	24	1.8
700	30	3,036	-8.4	-15.1	29	4.4
650	30	3,609	-10.6	-20.1	31	7.0
600	30	4,221	-13.8	-24.3	31	8.4
550	30	4,877	-17.6	-29.6	31	10.9
500	30	5,584	-22.4	-33.8	31	12.5
450	29	6,350	-27.4	-38.5	31	13.8
400	29	7,188	-33.6	-44.3	31	14.7
350	29	8,114	-40.5	-46.6	31	15.2
300	29	9,144	-48.0		30	17.5
250	29	10,327	-55.2		30	20.5
200	29	11,738	-58.6		29	22.2
175	29	12,577	-58.4		28	22.2
150	29	13,549	-57.5		28	22.3
125	28	14,696	-59.2		28	22.1
100	27	16,086	-61.6		29	19.0
80	26	17,460	-62.8		29	16.3
70	25	18,283	-62.4		29	15.2
60	25	19,234	-62.7		29	13.4
50	24	20,364	-61.7		29	11.4
40	20	21,753	-61.6		29	10.1
30	20	23,541	-60.0		28	9.3
25	16	24,707	-57.4		27	10.2
20	15	26,136	-55.0		26	13.1
15	8	28,020	-50.6			
10						
7						

* GREAT FALLS, MT
889 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,118	-7.8	-13.3	24	3.7
1000						
950						
900						
850	31	1,466	-4.7	-12.0	27	7.1
800	31	1,942	-6.4	-13.7	29	8.7
750	31	2,444	-9.1	-16.6	31	9.7
700	31	2,975	-11.9	-19.0	31	11.3
650	31	3,539	-14.8	-21.9	31	13.5
600	31	4,141	-18.5	-25.0	32	15.9
550	31	4,786	-21.9	-30.1	32	18.6
500	31	5,482	-26.1	-34.5	32	21.4
450	31	6,237	-31.2	-38.0	32	23.4
400	31	7,062	-36.9	-42.8	32	25.9
350	30	7,973	-43.5		32	26.8
300	30	8,991	-50.6		32	28.8
250	29	10,164	-56.7		33	28.9
200	29	11,568	-59.6		33	25.7
175	29	12,403	-59.3		32	23.0
150	29	13,372	-58.4		32	21.9
125	29	14,519	-58.4		32	21.3
100	27	15,912	-58.4		31	18.7
80	26	17,303	-60.5		31	18.0
70	26	18,135	-60.5		32	17.2
60	23	19,084	-60.8		31	15.4
50	21	20,225	-62.0		31	15.2
40	20	21,612	-61.6		31	13.4
30	20	23,396	-61.8		31	12.0
25	16	24,547	-60.2		30	12.4
20	10	25,932	-58.1		29	10.2
15	5	27,810	-51.2			
10						
7						

GREEN BAY, WI
989 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	210	-17.9	-21.[illegible]	27	3.7
1000						
950	31	509	-16.0	-18.5	31	6.4
900	31	916	-16.1	-19.4	32	7.6
850	31	1,346	-16.2	-20.8	31	8.1
800	31	1,802	-16.9	-22.2	31	8.8
750	31	2,286	-18.2	-23.7	31	10.1
700	31	2,799	-19.9	-26.3	30	12.0
650	31	3,347	-22.5	-30.2	30	13.2
600	31	3,931	-25.3	-33.8	30	14.8
550	31	4,558	-28.7	-36.6	29	15.4
500	31	5,235	-32.8	-40.3	29	17.1
450	31	5,970	-37.4	-41.0	29	19.8
400	31	6,774	-42.5	-45.3	28	21.9
350	31	7,669	-47.6		28	23.8
300	31	8,674	-52.1		28	25.4
250	30	9,841	-53.4		28	25.7
200	30	11,279	-53.0		28	26.4
175	30	12,141	-52.4		29	23.6
150	30	13,136	-53.4		29	23.2
125	30	14,306	-54.9		29	22.7
100	30	15,729	-55.9		29	19.8
80	30	17,146	-57.1		28	16.6
70	30	17,990	-57.1		28	16.6
60	30	18,966	-56.8		28	16.7
50	30	20,125	-55.4		26	13.9
40	30	21,554	-53.8		25	12.8
30	25	23,385	-51.3		23	12.9
25	25	24,574	-50.0		23	14.6
20	24	26,024	-49.7		23	15.3
15	20	27,903	-49.4		22	17.2
10	5	30,652	-47.8			
7						

GREENSBORO, NC
983 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	275	-5.9	-10.3	29	1.2
1000						
950	31	541	-4.8	-14.2	30	5.2
900	31	967	-5.7	-14.9	29	8.4
850	31	1,415	-6.0	-16.5	29	11.4
800	31	1,889	-6.4	-18.4	28	13.7
750	31	2,392	-8.0	-20.6	28	16.1
700	31	2,926	-10.0	-23.1	28	18.7
650	31	3,495	-12.4	-25.1	27	21.0
600	31	4,103	-15.7	-27.8	27	24.6
550	31	4,754	-19.5	-31.4	27	28.5
500	31	5,456	-23.9	-33.8	27	30.3
450	31	6,218	-28.9	-38.0	27	33.2
400	31	7,051	-34.4	-43.3	27	39.1
350	31	7,977	-40.1	-46.6	27	40.8
300	31	9,011	-46.9		27	43.3
250	31	10,202	-52.5		27	48.0
200	31	11,635	-54.9		27	44.5
175	31	12,489	-54.9		27	44.0
150	31	13,471	-56.5		27	37.4
125	31	14,623	-58.6		27	39.7
100	31	16,016	-61.5		27	33.6
80	30	17,393	-62.3		27	27.4
70	30	18,218	-62.4		26	25.9
60	30	19,172	-61.5		27	24.3
50	30	20,308	-58.8		27	16.3
40	28	21,734	-54.1		25	10.0
30	27	23,603	-49.9		23	5.9
25	27	24,798	-48.8		21	4.9
20	26	26,258	-49.5		16	4.8
15	25	28,138	-50.4		15	6.2
10	23	30,771	-49.3		23	4.6
7	7	33,157	-47.3			

GUADALUPE IS., MEXICO
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	23	15.4	10.3	33	2.8
1000	31	144	15.0	8.5	32	3.5
950	31	576	11.8	5.3	31	2.9
900	31	1,026	9.0	.4	30	3.0
850	31	1,498	7.4	-5.1	30	3.2
800	31	1,996	6.0	-9.4	28	3.2
750	31	2,523	3.7	-13.9	28	3.9
700	31	3,080	1.2	-17.0	28	4.9
650	31	3,673	-1.9	-19.6	28	5.6
600	31	4,305	-6.1	-22.5	27	7.4
550	31	4,980	-10.8	-25.9	27	9.3
500	31	5,705	-15.9	-30.6	26	12.1
450	31	6,491	-21.4	-34.7	26	14.1
400	31	7,348	-27.7	-39.1	25	16.1
350	31	8,298	-34.6	-46.0	25	18.7
300	30	9,352	-43.1		25	23.4
250	29	10,559	-51.3		24	26.0
200	29	11,990	-56.2		25	28.8
175	29	12,835	-57.7		25	29.6
150	29	13,8[illegible]7	-58.6		25	27.6
125	28	14,948	-62.5		25	24.0
100	26	16,306	-67.0		26	21.1
80	26	17,643	-69.1		27	14.4
70	23	18,450	-69.0		26	10.8
60	21	19,376	-66.5		27	8.0
50	20	20,487	-63.7		28	5.8
40	19	21,873	-60.7		28	3.7
30	18	23,674	-58.3		22	1.9
25	14	24,836	-56.6		22	2.0
20	7	26,297	-54.7			
15						
10						
7						

* GUAM, MARIANA IS.
999 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	111	24.1	21.6	08	4.4
1000	6	113	24.5	21.9		
950	31	554	21.9	18.9	08	9.9
900	31	1,022	18.9	15.1	09	10.0
850	31	1,513	17.0	8.8	09	9.5
800	31	2,029	16.3	-.5	09	8.1
750	31	2,576	14.3	-5.6	09	7.8
700	31	3,155	11.4	-9.9	09	7.4
650	31	3,769	7.8	-13.6	10	6.9
600	31	4,424	4.0	-16.6	10	6.9
550	31	5,126	.0	-20.1	10	6.9
500	31	5,883	-4.7	-24.6	10	6.1
450	31	6,704	-9.6	-28.7	11	5.5
400	31	7,603	-15.6	-32.7	11	4.8
350	31	8,601	-22.3	-38.4	11	3.9
300	30	9,712	-30.9	-44.3	12	2.5
250	29	10,979	-41.0	-50.0	16	3.7
200	28	12,454	-53.6		17	6.6
175	28	13,299	-60.6		17	9.0
150	28	14,241	-68.6		16	11.6
125	27	15,312	-76.8		15	12.4
100	24	16,571	-83.6		13	11.0
80	17	17,800	-84.9		12	6.5
70	14	18,546	-81.0		10	2.8
60	11	19,432	-75.4		08	2.8
50	11	20,503	-70.0		09	6.6
40	10	21,853	-64.1		09	9.1
30	10	23,626	-61.2		08	13.9
25	10	24,770	-57.0		08	16.2
20	10	26,199	-53.3		09	16.6
15	10	28,078	-47.7		09	15.3
10	8	30,779	-43.5			
7						

HILO, HI
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	10	19.1	15.2	23	2.0
1000	31	127	20.8	16.5	21	2.2
950	31	571	18.1	14.7	16	3.4
900	31	1,032	14.9	11.3	15	3.2
850	31	1,514	12.6	5.6	15	2.8
800	31	2,023	12.2	-5.9	15	2.5
750	31	2,562	11.3	-9.5	16	2.0
700	31	3,135	8.7	-13.6	21	1.4
650	31	3,744	5.5	-16.2	27	2.6
600	31	4,394	1.5	-19.6	29	5.1
550	31	5,088	-3.3	-23.2	29	7.1
500	31	5,834	-8.2	-26.6	29	9.6
450	31	6,644	-13.6	-31.4	29	12.9
400	31	7,529	-19.7	-35.9	30	16.4
350	31	8,509	-26.4	-41.5	30	20.9
300	31	9,605	-33.6	-48.1	30	26.9
250	31	10,861	-42.2		30	30.3
200	31	12,335	-53.1		30	30.2
175	31	13,184	-59.1		30	28.6
150	31	14,136	-65.9		30	26.8
125	31	15,224	-72.6		30	22.8
100	31	16,512	-79.0		30	18.1
80	30	17,773	-80.8		30	10.3
70	30	18,529	-79.1		30	4.3
60	30	19,415	-74.0		31	.3
50	30	20,498	-66.8		10	3.9
40	30	21,865	-62.2		09	5.0
30	30	23,656	-58.9		08	8.1
25	29	24,807	-56.5		08	10.4
20	28	26,235	-53.2		09	10.2
15	28	28,103	-50.6		10	7.0
10	21	30,758	-46.8		04	1.0
7	7	33,104	-40.8			

HUNTINGTON, WV
987 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	246	-8.8	-13.3	26	1.8
1000						
950	31	541	-9.8	-13.5	26	5.5
900	31	958	-10.5	-15.4	27	9.1
850	31	1,398	-10.6	-17.0	27	12.1
800	31	1,864	-11.3	-18.6	28	13.7
750	31	2,358	-12.4	-20.2	28	15.2
700	31	2,884	-14.2	-22.5	28	16.7
650	31	3,444	-16.6	-26.2	28	19.1
600	31	4,042	-19.9	-28.8	28	21.0
550	31	4,682	-23.4	-31.5	28	23.7
500	31	5,374	-27.4	-35.9	27	27.6
450	31	6,126	-31.7	-40.3	27	31.7
400	31	6,950	-37.1	-44.4	27	33.9
350	31	7,864	-42.8	-45.8	27	37.6
300	31	8,890	-48.2		27	41.1
250	31	10,078	-52.4		27	42.9
200	29	11,524	-53.5		27	42.7
175	28	12,378	-53.5		27	40.4
150	26	13,361	-54.8		27	37.3
125	25	14,536	-56.4		27	36.0
100	22	15,941	-59.7		27	31.0
80	22	17,333	-60.3		27	26.2
70	22	18,166	-59.9		27	23.0
60	21	19,135	-58.8		27	19.5
50	18	20,295	-57.6		27	15.0
40	13	21,754	-54.9		26	10.2
30	11	23,612	-49.7		24	11.2
25	11	24,805	-49.9		24	13.0
20	8	26,273	-49.2			
15	6	28,240	-49.5			
10						
7						

* INTERNATIONAL FALLS, MN
971 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	359	-22.8	-25.9	30	2.3
1000						
950	30	523	-19.8	-21.5	31	4.0
900	30	925	-18.8	-21.1	32	7.0
850	30	1,352	-18.2	-21.2	33	7.7
800	30	1,804	-18.9	-22.9	33	8.5
750	30	2,284	-19.6	-25.3	32	9.0
700	30	2,795	-21.2	-28.5	32	9.6
650	30	3,339	-23.7	-31.3	32	10.2
600	30	3,920	-26.9	-34.8	32	11.2
550	30	4,543	-30.5	-38.1	32	12.8
500	30	5,215	-34.6	-41.7	32	14.5
450	30	5,945	-39.1	-43.2	31	15.8
400	30	6,744	-44.0	-44.4	31	17.5
350	30	7,632	-49.2		31	19.0
300	30	6,631	-52.9		31	20.9
250	30	9,803	-54.3		31	20.3
200	30	11,238	-53.2		31	19.1
175	30	12,098	-53.4		31	18.2
150	30	13,089	-53.8		[illegible]	17.9
125	30	14,258	-54.9		30	17.2
100	30	15,679	-56.4		30	16.5
80	30	17,092	-57.4		30	15.6
70	30	17,936	-57.6		29	14.4
60	30	18,909	-57.8		29	13.6
50	29	20,065	-56.7		28	13.4
40	28	21,476	-55.8		26	12.6
30	26	23,322	-53.1		24	13.9
25	21	24,486	-50.9		23	16.6
20	16	25,969	-47.5		22	20.1
15	9	27,867	-46.2			
10						
7						

* ISLE DEL CISNE
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	10	24.7	19.2	07	3.1
1000	30	126	24.2	18.9	06	4.1
950	30	573	20.3	16.8	07	5.3
900	30	1,039	16.9	12.1	08	5.0
850	30	1,524	14.0	6.9	08	4.3
800	30	2,034	11.9	1.9	10	3.1
750	30	2,573	10.8	-4.4	11	2.7
700	30	3,147	9.8	-11.1	10	1.7
650	30	3,759	6.9	-14.6	34	.1
600	30	4,412	3.2	-17.7	29	2.3
550	30	5,112	-.9	-20.9	28	4.6
500	30	5,865	-5.9	-25.5	27	5.2
450	30	6,683	-11.1	-29.9	27	6.7
400	30	7,575	-17.7	-35.5	25	8.0
350	30	8,563	-25.2	-41.5	26	9.5
300	30	9,660	-33.9	-48.8	27	12.1
250	30	10,911	-44.0		27	15.3
200	30	12,374	-54.6		25	18.0
175	30	13,218	-60.3		25	20.2
150	30	14,166	-65.9		26	20.3
125	30	15,257	-71.7		26	16.5
100	30	16,552	-78.2		26	10.9
80	27	17,809	-82.0		26	4.4
70	24	18,558	-80.3		30	.1
60	24	19,437	-75.5		11	1.9
50	24	20,513	-67.8		11	3.5
40	23	21,875	-62.2		09	7.5
30	22	23,677	-57.8		09	14.9
25	20	24,841	-54.2		09	18.2
20	20	26,284	-51.0		09	18.6
15	19	28,165	-49.7		10	14.2
10	9	30,817	-47.9			
7						

JACKSON, MS
1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	100	-.4	-3.4	35	1.2
1000	27	180	-1.5	-6.0	35	1.9
950	31	575	-.1	-6.9	32	3.1
900	31	1,009	1.0	-9.5	30	5.8
850	31	1,469	1.2	-10.8	29	9.4
800	31	1,956	.2	-12.1	29	12.4
750	31	2,471	-1.7	-12.9	28	15.5
700	31	3,018	-4.1	-16.6	28	18.5
650	31	3,600	-6.6	-19.6	28	21.7
600	31	4,222	-9.5	-23.9	28	25.3
550	31	4,889	-13.3	-26.7	27	29.6
500	31	5,609	-17.7	-30.8	27	32.9
450	31	6,389	-23.3	-35.1	27	35.8
400	31	7,242	-28.4	-39.8	27	40.8
350	31	8,189	-34.9	-43.9	27	45.8
300	31	9,246	-42.4	-47.5	27	51.8
250	31	10,457	-50.2		27	60.5
200	31	11,892	-56.8		27	64.4
175	31	12,733	-58.9		27	60.6
150	31	13,697	-60.7		27	57.1
125	31	14,824	-63.9		27	47.8
100	29	16,187	-67.6		27	38.5
80	27	17,522	-68.2		27	28.1
70	25	18,320	-67.6		27	21.8
60	24	19,249	-65.9		27	18.0
50	23	20,369	-63.1		27	14.8
40	21	21,762	-58.7		26	9.9
30	20	23,606	-53.7		23	6.2
25	20	24,783	-52.1		19	4.6
20	19	26,238	-51.8		17	4.9
15	16	28,110	-52.1		12	8.6
10	9	30,753	-50.6			
7						

JOHN F. KENNEDY INT. AP NY
1012 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	-6.5	-13.3	30	3.4
1000	30	101	-7.5	-14.7	30	4.3
950	31	495	-9.8	-14.9	30	7.6
900	31	911	-10.3	-15.4	31	8.9
850	31	1,352	-10.6	-16.7	30	9.9
800	31	1,817	-11.7	-18.0	29	10.8
750	31	2,311	-12.9	-20.6	28	12.8
700	31	2,835	-15.1	-23.5	28	14.2
650	31	3,393	-17.9	-26.5	27	16.9
600	31	3,987	-21.3	-30.5	27	18.3
550	31	4,624	-25.1	-34.4	28	19.9
500	31	5,311	-29.6	-38.1	27	22.0
450	31	6,055	-34.2	-42.3	27	25.5
400	31	6,870	-39.7	-46.5	27	28.6
350	31	7,775	-45.1		27	31.8
300	31	8,791	-49.8		27	36.6
250	31	9,975	-52.9		27	40.0
200	31	11,413	-52.4		27	38.8
175	30	12,281	-52.7		27	35.8
150	30	13,276	-53.2		27	33.4
125	30	14,446	-55.1		27	30.0
100	29	15,868	-56.9		27	27.7
80	29	17,277	-57.9		26	22.7
70	29	18,122	-56.8		26	19.2
60	28	19,094	-55.6		26	17.0
50	28	20,260	-53.9		25	14.0
40	28	21,703	-50.8		24	10.3
30	27	23,594	-48.3		24	8.8
25	25	24,799	-47.9		23	9.0
20	23	26,251	-48.6		23	9.0
15	18	28,120	-49.6		23	6.4
10						
7						

JOHNSTON IS., PACIFIC AREA
1012 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	3	24.3	20.1	08	4.4
1000	31	107	23.2	19.0	08	4.5
950	31	553	19.4	16.8	09	4.6
900	31	1,017	16.3	12.8	10	4.4
850	31	1,502	13.9	7.0	09	3.9
800	31	2,014	14.6	-3.8	08	2.3
750	31	2,558	14.0	-9.0	07	.9
700	31	3,137	11.3	-11.5	32	1.7
650	31	3,752	7.9	-14.3	28	2.6
600	31	4,406	3.6	-17.6	30	3.1
550	31	5,106	-.6	-21.3	32	6.4
500	31	5,861	-5.6	-25.5	30	6.6
450	31	6,679	-11.1	-29.8	31	7.9
400	31	7,573	-17.1	-34.7	31	10.4
350	31	8,564	-23.7	-40.2	31	12.4
300	31	9,670	-31.6	-47.4	30	13.4
250	31	10,934	-41.3		30	15.7
200	31	12,412	-52.9		30	16.4
175	31	13,260	-59.5		30	16.4
150	31	14,208	-66.7		30	16.1
125	31	15,290	-74.5		29	14.4
100	31	16,564	-81.7		29	10.6
80	31	17,801	-84.5		28	4.4
70	30	18,544	-82.1		31	.8
60	30	19,421	-75.2		09	2.5
50	30	20,500	-67.9		10	4.6
40	30	21,860	-63.0		09	6.1
30	29	23,650	-58.4		09	12.0
25	28	24,801	-56.5		09	14.2
20	27	26,230	-52.8		09	15.1
15	26	28,100	-50.0		09	14.9
10	25	30,768	-45.8		10	6.8
7	11	33,181	-39.4			

KEY WEST, FL
.018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	3	16.8	13.0	04	2.2
1000	30	151	16.7	12.2	[illegible]	1.8
950	30	588	15.0	8.5	19	.4
900	30	1,045	13.4	4.2	25	3.5
850	30	1,525	11.6	1.3	26	6.6
800	30	2,031	9.9	-3.7	27	7.8
750	30	2,565	7.8	-5.0	26	9.4
700	30	3,132	5.7	-11.4	26	10.8
650	30	3,735	2.7	-14.8	27	13.2
600	30	4,378	-.7	-18.6	27	15.5
550	30	5,068	-4.5	-21.7	27	18.2
500	30	5,812	-9.2	-24.7	27	22.0
450	30	6,620	-14.1	-29.1	27	24.7
400	29	7,502	-20.5	-35.2	27	[illegible]
350	29	8,480	-27.5	-42.0	27	30.8
300	29	9,567	-35.9	-49.7	27	32.7
250	29	10,810	-45.4		27	35.6
200	29	12,263	-55.8		27	36.4
175	29	13,103	-60.7		27	37.4
150	29	14,052	-65.5		27	37.9
125	29	15,149	-70.1		27	33.5
100	29	16,458	-75.6		27	25.8
80	29	17,738	-77.9		27	19.2
70	28	18,503	-77.2		27	12.0
60	24	19,407	-72.4		[illegible]	6.1
50	24	20,498	-65.5		25	4.2
40	22	21,877	-60.1		12	1.3
30	21	23,697	-55.1		09	9.9
25	21	24,866	-53.7		09	12.9
20	21	26,307	-52.2		09	15.9
15	18	28,185	-50.5		10	16.3
10	17	30,836	-49.0		10	10.8
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RAWINSONDE DATA

Average monthly values

JANUARY 1977

KING SALMON, AK
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	20	15	1.7	-1.0	10	4.8
1000	9	61	3.0	-1.8		
950	20	404	3.1	-2.9	12	8.4
900	20	841	.7	-5.0	13	9.0
850	20	1,297	-2.4	-7.7	14	9.9
800	20	1,777	-5.2	-11.0	14	11.0
750	20	2,281	-8.0	-14.7	14	11.4
700	20	2,814	-11.3	-19.7	15	12.5
650	20	3,379	-15.0	-24.2	15	13.0
600	20	3,980	-18.9	-27.8	16	12.9
550	20	4,622	-22.9	-30.9	16	12.4
500	20	5,315	-27.4	-34.3	16	12.0
450	20	6,065	-32.6	-37.9	17	11.1
400	20	6,885	-38.5	-41.7	17	12.6
350	20	7,793	-45.2		17	14.5
300	20	8,805	-51.4		18	16.3
250	20	9,976	-55.7		20	16.1
200	20	11,399	-54.4		19	13.1
175	19	12,261	-52.1		19	11.5
150	19	13,263	-50.8		19	11.4
125	19	14,451	-50.7		18	8.8
100	18	[illegible]	-51.3		18	7.3
80	18	17,351	-51.3		17	4.6
70	18	18,217	-52.2		18	4.8
60	18	19,216	-52.0		18	2.7
50	18	20,394	-53.3		22	1.1
40	18	21,825	-54.9		02	1.2
30	15	23,665	-56.9		35	2.9
25	12	24,834	-57.0		36	4.4
20	9	26,308	-58.4			
15						
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KOROR, CAROLINE IS. +
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	30	27.3	23.8	08	3.2
1000	28	90	26.6	23.1	08	3.7
950	28	542	23.0	20.4	08	6.6
900	28	1,012	20.1	16.2	08	7.[illegible]
850	28	1,504	18.0	8.7	09	7.3
800	28	2,022	16.4	3.7	09	[illegible].5
750	28	2,569	13.9	.2	09	6.2
700	28	3,147	10.6	-4.1	09	6.7
650	27	3,762	6.9	-5.6	08	6.6
600	27	4,416	3.1	-9.5	09	7.1
550	27	5,116	-.7	-13.6	09	7.3
500	27	5,872	-4.7	-18.7	10	8.4
450	26	6,693	-9.5	-22.9	10	9.5
400	25	7,593	-15.1	-28.2	10	9.1
350	25	8,593	-21.5	-35.1	10	[illegible].4
300	25	9,707	-30.2	-43.5	10	8.7
250	24	10,979	-40.5	-50.4	12	8.7
200	24	12,458	-53.2		12	12.4
175	24	13,304	-60.2		12	14.[illegible]
150	24	14,247	-68.4		12	18.[illegible]
125	23	15,318	-76.7		12	22.4
100	23	16,583	-82.0		11	16.3
80	23	17,830	-81.6		09	4.6
70	22	18,585	-77.2		01	.5
60	22	19,480	-72.9		31	.8
50	22	20,561	-68.5		08	4.7
40	21	21,913	-64.0		09	15.[illegible]
30	20	23,696	-58.7		09	25.0
25	20	24,850	-55.7		09	26.8
20	19	26,288	-51.0		10	27.7
15	13	28,167	-46.4		09	20.9
10	8	30,885	-41.7			
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KOTZEBUE, AK
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	5	-10.6	-13.6	09	5.8
1000	23	109	-8.9	-12.8	09	6.1
950	31	471	-7.4	-12.2	10	8.5
900	31	892	-7.6	-12.5	11	7.1
850	31	1,336	-8.9	-14.6	11	5.8
800	31	1,804	-10.5	-17.[illegible]	13	5.5
750	31	2,299	-12.8	-20.5	14	5.2
700	31	2,822	-16.1	-24.[illegible]	14	5.1
650	30	3,382	-19.2	-28.3	15	5.0
600	30	3,974	-22.7	-32.7	16	4.9
550	30	4,606	-26.9	-34.[illegible]	17	5.8
500	30	5,288	-31.3	-38.0	19	5.8
450	30	6,026	-36.4	-42.3	21	6.4
400	30	6,833	-42.2	-44.7	21	7.1
350	30	7,727	-48.5		21	8.0
300	30	8,726	-53.7		21	9.8
250	30	9,894	-54.4		20	8.4
200	30	11,334	-51.5		19	7.1
175	30	12,203	-50.6		19	5.9
150	30	13,209	-50.1		17	5.6
125	30	14,399	-50.4		17	5.6
100	30	15,854	-51.3		16	4.0
80	30	17,303	-52.0		16	3.1
70	30	18,167	-52.2		17	1.8
60	29	19,161	-53.2		11	.8
50	29	20,334	-53.9		02	.4
40	27	21,777	-54.8		33	2.8
30	26	23,622	-56.5		33	5.4
25	25	24,793	-57.0		34	7.3
20	23	26,209	-57.8		33	8.5
15	14	28,061	-57.7		35	11.6
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KWAJALEIN, MARSHALL IS.
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC						
1000						
950						
900						
850						
800						
750						
700						
650						
600						
550						
500						
450						
400						
350						
300						
250						
200						
175						
150						
125						
100						
80						
70						
60						
50						
40						
30						
25						
20						
15						
10						
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LAKE CHARLES, LA
1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s
SFC	31	5	4.1	-.3	04	2.1
1000	31	168	4.3	-1.9	03	2.4
950	31	586	5.2	-4.5	34	1.6
900	31	1,029	6.4	-6.7	29	4.5
850	31	1,497	5.5	-8.0	28	7.9
800	31	1,991	3.5	-9.1	28	10.5
750	31	2,513	1.2	-11.0	28	12.7
700	31	3,066	-.8	-13.8	27	15.9
650	31	3,655	-3.6	-18.8	27	19.0
600	31	4,283	-7.0	-21.8	28	22.8
550	31	4,957	-10.9	-25.4	27	26.0
500	31	5,683	-15.3	-27.1	27	29.1
450	31	6,472	-19.9	-32.9	27	32.3
400	31	7,335	-26.2	-38.3	27	35.5
350	31	8,291	-32.7	-43.1	27	39.9
300	30	9,358	-40.6	-46.7	27	46.1
250	29	10,579	-48.9		26	51.9
200	29	12,016	-57.3		27	54.4
175	29	12,855	-59.8		27	52.2
150	29	13,813	-62.3		27	49.2
125	29	14,927	-66.6		27	41.2
100	29	16,266	-70.1		27	32.4
80	27	17,586	-71.5		27	23.8
70	25	18,375	-70.8		27	18.4
60	23	19,289	-68.5		27	12.8
50	22	20,400	-63.4		27	9.7
40	22	21,786	-59.3		26	5.6
30	21	23,615	-53.9		22	4.1
25	21	24,791	-52.2		14	4.8
20	21	26,238	-51.9		12	7.0
15	21	28,100	-52.3		12	9.1
10	15	30,721	-50.5		11	6.9
7	8	33,058	-45.3			

LANDER, WY
828 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,697	-12.4	-16.5	16	.3
1000						
950						
900						
850						
800	31	1,957	-6.2	-13.9	19	.4
750	31	2,462	-6.5	-17.0	32	3.4
700	31	2,999	-8.5	-19.5	31	7.8
650	31	3,571	-11.9	-22.2	31	11.6
600	31	4,180	-15.2	-25.7	32	15.5
550	31	4,832	-19.1	-29.3	32	17.5
500	31	5,535	-23.9	-33.6	32	19.0
450	31	6,296	-29.4	-38.8	32	20.1
400	31	7,125	-35.7	-43.7	31	21.2
350	31	8,043	-42.7	-47.2	31	22.3
300	31	9,063	-50.6		31	23.7
250	31	10,233	-57.3		30	26.8
200	31	11,629	-61.3		30	27.0
175	31	12,460	-60.2		30	25.9
150	31	13,427	-57.9		30	24.6
125	31	14,575	-58.9		29	23.1
100	31	15,971	-60.8		30	20.7
80	30	17,352	-62.0		30	18.1
70	30	18,176	-63.0		30	16.5
60	28	19,125	-62.1		30	16.0
50	28	20,251	-62.5		30	15.0
40	[illegible]	21,633	-62.0		29	12.6
30	[illegible]	23,423	-59.0		28	12.1
25	24	24,573	-58.3		27	13.2
20	22	25,989	-55.9		26	17.1
15	15	27,797	-51.2		25	15.6
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*** LIHUE KAUAI, HI**
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	36	21.2	18.1	22	1.4
1000	31	128	21.6	17.5	20	1.5
950	31	572	18.5	15.2	19	3.[illegible]
900	31	1,034	15.5	12.1	20	3.9
850	31	1,517	12.4	8.1	21	4.5
800	31	2,025	11.5	-1.7	21	4.9
750	31	2,564	10.5	-7.3	23	5.4
700	31	3,136	8.3	-12.3	25	6.7
650	31	3,744	4.6	-15.8	26	8.2
600	31	4,390	.4	-19.9	27	10.5
550	31	5,082	-4.0	-23.4	27	13.1
500	31	5,827	-9.1	-27.8	28	16.4
450	31	6,634	-14.5	-31.0	28	19.7
400	31	7,517	-19.9	-36.0	29	23.2
350	31	8,497	-26.8	-42.2	29	27.9
300	31	9,591	-33.5	-48.4	29	33.1
250	31	10,847	-42.5	-53.8	29	34.9
200	31	12,318	-53.6		29	35.[illegible]
175	31	13,165	-59.6		29	34.8
150	31	14,115	-65.9		29	33.6
125	31	15,204	-72.4		29	28.9
100	31	16,496	-78.1		28	23.6
80	29	17,763	-80.3		28	13.5
70	27	18,522	-78.5		27	7.2
60	27	19,413	-73.1		25	4.2
50	26	20,497	-66.2		15	1.4
40	25	21,865	-62.0		09	3.5
30	24	23,661	-58.6		09	4.[illegible]
25	23	24,810	-55.9		07	3.4
20	22	26,246	-52.1		09	3.4
15	19	28,120	-50.6		15	3.0
10	11	30,750	-49.6			
7						

LITTLE ROCK, AR
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	79	-4.5	-8.9	35	1.4
1000	20	218	-6.6	-12.7	34	1.6
950	31	589	-3.7	-10.9	31	3.8
900	31	1,016	-3.0	-12.[illegible]	30	5.8
850	31	1,469	-2.9	-14.5	30	8.5
800	31	1,949	-3.7	-14.5	30	11.0
750	31	2,458	-5.2	-16.5	29	14.0
700	31	2,998	-7.5	-19.3	29	17.4
650	31	3,573	-9.8	-21.3	29	21.5
600	31	4,187	-13.0	-24.2	29	24.4
550	31	4,846	-16.5	-29.1	29	26.7
500	31	5,557	-20.8	-33.[illegible]	28	29.4
450	31	6,327	-26.2	-37.3	28	31.5
400	31	7,169	-32.2	-42.6	28	35.7
350	31	8,103	-38.2	-46.8	28	42.0
300	31	9,144	-45.6		28	46.6
250	31	10,340	-52.3		27	53.7
200	31	11,767	-56.9		27	59.9
175	31	12,612	-57.7		27	56.4
150	31	13,584	-58.0		27	51.0
125	30	14,729	-60.9		27	44.3
100	30	16,104	-64.6		27	36.8
80	29	17,467	-65.5		27	28.6
70	27	18,272	-64.5		27	23.4
60	27	19,217	-62.8		27	18.6
50	27	20,344	-61.6		27	14.8
40	26	21,735	-58.1		27	12.8
30	26	23,571	-52.3		25	12.1
25	26	24,754	-50.8		24	11.5
20	23	26,206	-50.9		22	10.5
15	23	28,080	-50.4		21	10.1
10	14	30,737	-49.9		22	8.4
7						

LONGVIEW, TX
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	124	-.2	-3.3	34	1.0
1000	27	203	-.5	-6.6	35	1.0
950	31	599	.4	-7.4	31	2.0
900	31	1,034	2.0	-9.5	29	4.4
850	31	1,496	2.5	-11.2	28	[illegible]
800	31	1,985	.7	-12.1	28	11.4
750	31	2,501	-1.3	-15.2	28	13.4
700	31	3,050	-3.3	-17.4	28	15.[illegible]
650	31	3,633	-6.2	-20.4	28	18.2
600	31	4,255	-9.4	-23.8	28	20.[illegible]
550	31	4,922	-13.5	-28.1	28	23.7
500	31	5,641	-18.3	-31.9	28	27.7
450	31	6,419	-23.3	-35.9	27	32.5
400	31	7,272	-28.9	-40.5	27	38.3
350	31	8,217	-35.7	-46.1	27	42.1
300	31	9,269	-43.0		27	49.3
250	31	10,477	-50.8		26	53.6
200	31	11,906	-57.7		26	59.6
175	31	12,744	-59.5		27	56.8
150	31	13,707	-61.1		26	46.[illegible]
125	31	14,830	-64.4			
100	31	16,183	-67.5			
80	30	17,520	-69.0		27	21.[illegible]
70	30	18,321	-68.0		27	21.4
60	27	19,246	-66.2			
50	26	20,362	-63.4		27	2.8
40	26	21,744	-60.5		28	[illegible]
30	25	23,572	-53.9		20	5.8
25	25	24,751	-51.2		22	6.[illegible]
20	25	26,204	-51.1		16	6.8
15	22	28,071	-51.4		14	[illegible].0
10	16	30,713	-49.7			
7	5	33,089	-46.8			

MCGRATH, AK
994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	103	-12.1	-14.5	06	.3
1000	13	128	-10.8	-12.1	04	.8
950	31	451	-7.0	-9.1	09	4.4
900	31	877	-3.1	-8.5	11	6.1
850	31	1,330	-3.7	-11.1	14	5.5
800	31	1,806	-6.4	-12.8	16	5.4
750	31	2,308	-9.5	-14.4	17	7.7
700	31	2,838	-12.6	-17.6	18	8.8
650	31	3,400	-16.0	-22.1	18	8.9
600	31	3,999	-19.8	-28.0	19	9.1
550	31	4,640	-24.0	-32.8	19	10.6
500	31	5,329	-28.6	-36.6	19	11.4
450	31	6,076	-34.0	-40.7	19	12.1
400	30	6,889	-40.2	-44.9	19	12.3
350	30	7,790	-46.8		20	14.0
300	30	8,795	-52.9		20	16.4
250	30	9,960	-56.2		20	14.6
200	30	11,385	-53.3		21	9.9
175	30	12,248	-51.9		20	7.7
150	30	13,249	-51.3		20	7.1
125	30	14,436	-51.1		19	6.0
100	30	15,885	-51.8		19	3.8
80	30	17,330	-52.2		21	4.0
70	30	18,193	-53.0		22	2.4
60	30	19,186	-53.5		24	1.4
50	30	20,356	-54.4		30	1.6
40	29	21,780	-55.5		31	2.8
30	28	23,623	-56.7		33	6.6
25	26	24,765	-57.7		33	8.9
20	23	26,204	-57.5		34	10.1
15	[illegible]	28,045	-57.4		33	9.5
10						
7						

MAJURO, MARSHALL IS. +
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	3	27.7	23.2	06	5.5
1000	31	86	26.5	21.9	06	7.1
950	31	537	22.6	20.0	06	9.5
900	31	1,007	19.9	15.7	07	9.2
850	31	1,500	17.6	11.7	08	8.3
800	31	2,018	17.4	1.8	09	7.2
750	31	2,568	15.2	-3.1	09	8.9
700	31	3,148	12.1	-6.5	09	9.7
650	31	3,765	8.4	-8.5	09	10.9
600	31	4,422	4.5	-12.3	09	12.6
550	31	5,175	.6	-16.5	09	12.2
500	31	5,884	-3.7	-22.3	09	12.9
450	31	6,710	-8.0	-26.7	09	13.3
400	31	7,615	-13.6	-31.2	08	11.9
350	31	8,620	-20.3	-35.0	08	9.7
300	31	9,741	-28.5	-42.0	10	7.8
250	31	[illegible]	-38.8	-50.3	12	7.4
200	31	12,512	-51.1		14	8.4
175	31	13,367	-58.1		13	8.6
150	31	14,320	-66.1		11	7.2
125	31	15,403	-74.6		08	8.8
100	31	16,671	-83.1		08	12.5
80	31	17,905	-83.9		10	9.3
70	31	18,657	-77.6		09	2.8
60	30	[illegible]	-73.4		29	.7
50	30	[illegible]	-67.7		09	4.4
40	30	21,989	-63.9		09	15.8
30	30	23,777	-58.0		09	24.1
25	[illegible]	24,934	-55.2		09	26.3
20	27	26,369	-51.5		09	27.1
15	25	28,258	-45.9		09	21.0
10	18	31,002	-39.8		09	5.1
7						

*** MEDFORD, OR**
975 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	401	-2.1	-2.9	34	.2
1000						
950	31	605	.8	-1.7	08	.4
900	31	1,042	3.3	-6.6	14	2.4
850	31	1,507	3.8	-9.4	18	1.9
800	31	1,997	1.8	-11.5	25	1.5
750	31	2,515	-1.1	-14.8	29	2.6
700	31	3,062	-3.9	-18.7	31	3.7
650	31	3,643	-7.3	-22.3	32	4.5
600	31	4,263	-11.0	-25.2	31	5.4
550	31	4,925	-15.5	-29.2	31	6.8
500	31	5,638	-20.5	-34.2	31	7.4
450	31	6,409	-26.2	-39.0	32	[illegible].1
400	31	7,250	-32.5	-44.3	32	8.7
350	31	8,179	-39.6	-49.3	33	9.6
300	31	9,214	-47.5		33	10.1
250	30	10,393	-55.4		33	11.0
200	30	11,792	-61.7		32	12.9
175	30	12,619	-61.1		31	12.9
150	30	13,582	-58.6		30	13.5
125	30	14,728	-58.8		30	12.7
100	30	16,124	-60.9		31	11.9
80	30	17,505	-62.5		31	10.3
70	29	18,326	-62.6		31	9.6
60	29	19,278	-62.2		32	9.2
50	28	20,405	-62.0		32	8.9
40	27	21,784	-62.2		33	8.6
30	22	23,567	-61.4		32	9.0
25	21	24,705	-60.7		32	8.0
20	18	26,081	-60.0		31	9.5
15	13	27,911	-56.4		27	11.2
10						
7						

MERIDA, MEXICO
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	11	17.2	16.3	08	.7
1000	31	140	19.8	16.9	07	3.0
950	31	583	18.2	14.7	10	4.6
900	31	1,045	15.8	11.1	11	1.7
850	31	1,529	13.0	7.8	20	1.4
800	31	2,038	11.4	.4	23	2.5
750	31	2,576	10.0	-5.9	25	3.6
700	31	3,147	7.6	-10.8	26	4.5
650	31	3,754	4.8	-15.[illegible]	27	6.5
600	31	4,402	1.2	-17.4	28	8.5
550	31	5,097	-2.8	-21.0	27	10.8
500	31	5,846	-7.3	-25.1	26	12.9
450	31	6,659	-12.5	-29.7	26	15.2
400	31	7,547	-18.6	-35.3	26	18.7
350	31	8,532	-25.8	-41.6	26	21.4
300	31	9,626	-34.6	-49.3	26	22.4
250	31	10,874	-44.8		26	24.7
200	31	12,330	-55.5		26	27.9
175	31	13,171	-60.6		26	27.8
150	30	14,119	-65.7		26	29.5
125	30	15,213	-71.2		26	25.7
100	30	16,513	-76.8		26	20.3
80	29	17,784	-80.3		26	13.1
70	28	18,537	-79.7		26	8.4
60	26	19,418	-75.7		26	3.2
50	25	20,498	-67.0		19	1.4
40	24	21,864	-61.0		13	1.2
30	22	23,657	-57.1		08	8.9
25	21	24,833	-54.0		08	13.7
20	19	26,273	-51.7		09	15.5
15	17	28,150	-49.7		09	14.3
10	7	30,799	-48.4			
7						

MIAMI, FL
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	4	12.8	10.4	31	1.3
1000	31	154	14.0	9.6	34	1.6
950	31	586	13.2	4.1	29	1.4
900	31	1,040	11.6	.3	27	3.7
850	31	1,517	10.3	-4.3	27	7.3
800	31	2,020	8.9	-5.5	27	9.9
750	31	2,553	7.0	-8.4	27	12.0
700	31	3,118	4.4	-11.4	27	13.9
650	31	3,717	1.3	-15.2	27	15.9
600	31	4,358	-1.8	-17.9	27	19.2
550	31	5,045	-6.1	-21.9	27	20.[illegible]
500	31	5,785	-10.1	-25.8	27	24.6
450	31	6,589	-15.3	-30.4	27	29.3
400	31	7,469	-21.2	-35.3	27	31.1
350	31	8,444	-28.1	-41.7	27	35.[illegible]
300	31	9,528	-36.5	-48.4	27	37.9
250	31	10,768	-45.7		27	39.9
200	31	12,220	-55.8		27	42.1
175	31	13,061	-60.5		27	42.8
150	31	14,011	-64.8		27	40.6
125	30	15,111	-69.5		27	35.1
100	29	16,423	-74.4		27	29.2
80	28	17,718	-76.1		28	20.4
70	25	18,499	-75.0		27	16.6
60	24	19,401	-71.1		27	10.4
50	24	20,498	-64.5		27	4.3
40	22	21,883	-59.1		07	1.2
30	19	23,713	-55.1		08	11.7
25	19	24,882	-53.4		09	13.1
20	18	26,319	-51.8		09	13.4
15	17	28,185	-51.3		10	12.[illegible]
10	11	30,839	-49.0		14	5.0
7						

MIDLAND, TX
918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	874	-.7	-5.0	02	.8
1000						
950						
900	31	1,028	1.2	-4.9	30	.3
850	31	1,490	3.3	-6.3	29	3.9
800	31	1,983	3.5	-9.5	28	6.1
750	31	2,504	1.3	-12.5	28	8.8
700	31	3,057	-1.1	-15.3	27	11.3
650	31	3,645	-4.5	-17.5	27	13.7
600	31	4,271	-8.0	-21.4	27	15.6
550	31	4,942	-12.0	-25.5	27	18.6
500	31	5,665	-16.7	-29.5	27	21.5
450	31	6,448	-22.0	-34.5	27	24.2
400	31	7,305	-28.3	-40.1	27	27.6
350	31	8,251	-35.2	-45.6	27	31.1
300	31	9,306	-42.7	-49.5	27	37.1
250	31	10,516	-50.4		26	43.3
200	31	11,948	-57.2		26	47.6
175	31	12,787	-59.5		26	46.5
150	31	13,749	-61.0		26	43.4
125	31	14,875	-63.9		27	36.6
100	30	16,228	-67.6		27	28.6
80	28	17,564	-69.1		28	23.3
70	27	18,363	-68.6		27	19.3
60	27	19,291	-66.7		27	14.3
50	26	20,404	-64.0		27	10.8
40	26	21,780	-61.3		27	10.1
30	25	23,580	-57.0		26	9.1
25	24	24,744	-54.5		25	8.7
20	24	26,181	-52.1		25	10.5
15	22	28,051	-50.6		22	9.5
10	20	30,701	-50.2		23	10.3
7	7	33,039	-47.9			

RAWINSONDE DATA

Average monthly values

MONTERREY, MEXICO
966 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	423	7.5	5.8	34	1.7
1000						
950	31	587	8.1	[illegible].3	35	1.6
900	31	1,035	8.[illegible]	3.5	30	.7
850	31	1,509	9.4	.7	20	2.0
800	31	2,012	9.5	-3.4	25	3.1
750	31	2,546	7.9	-7.8	26	7.6
700	31	3,112	4.6	-11.5	27	10.[illegible]
650	31	3,711	.8	-13.7	26	13.1
600	31	4,350	-2.7	-18.4	26	14.8
550	31	5,034	-6.[illegible]	-22.5	26	16.8
500	31	5,772	-11.4	-25.8	26	19.6
450	31	6,572	-16.9	-30.1	26	22.6
400	31	7,445	-23.0	-35.5	25	26.6
350	30	8,418	-29.1	-39.6	25	32.8
300	30	9,498	-37.7	-45.6	25	37.4
250	30	10,729	-47.5		25	39.8
200	30	12,171	-57.0		25	42.[illegible]
175	30	13,009	-61.0		26	40.5
150	30	13,959	-64.6		26	38.4
125	30	15,060	-69.2		26	34.6
100	30	16,378	-73.[illegible]		26	27.5
80	28	17,678	-75.5		26	18.3
70	27	18,450	-74.9		27	13.1
60	26	19,351	-71.8		26	11.5
50	24	20,442	-66.4		28	4.7
40	22	21,818	-60.9		26	4.4
30	20	23,633	-56.4		22	1.6
25	19	24,790	-53.9		19	.9
20	19	26,225	-53.2		08	1.8
15	17	28,090	-52.2		07	4.6
10						

MONETT, MO
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	438	-8.7	-11.3	28	.9
1000						
950	30	582	-7.0	-10.8	30	3.0
900	30	1,005	-6.2	-12.5	30	7.4
850	30	1,453	-6.3	-13.0	30	10.3
800	30	1,927	-6.5	-14.9	30	12.4
750	30	2,430	-7.7	-17.1	29	14.7
700	30	2,966	-9.4	-20.3	29	16.8
650	30	3,536	-12.1	-22.3	29	19.2
600	30	4,144	-15.0	-26.4	29	22.1
550	30	4,799	-18.4	-28.4	29	26.0
500	30	5,504	-22.8	-33.0	29	29.0
450	29	6,265	-28.1	-38.6	29	31.4
400	29	7,100	-33.9	-43.1	29	34.[illegible]
350	29	8,026	-40.5	-46.9	28	37.6
300	29	9,058	-47.3		28	42.[illegible]
250	29	10,247	-53.5		28	47.8
200	29	11,668	-57.0		28	49.5
175	29	12,514	-56.7		28	47.8
150	29	13,491	-57.2		28	44.2
125	29	14,640	-59.1		28	39.8
100	27	16,026	-61.6		28	35.2
80	24	17,401	-62.9		28	27.2
70	24	18,223	-63.0		28	22.3
60	24	19,174	-62.[illegible]		28	19.6
50	24	20,308	-59.9		27	17.2
40	24	21,707	-57.8		27	14.6
30	22	23,522	-52.9		26	15.1
25	22	24,708	-50.1		24	13.8
20	22	26,173	-48.2		22	11.4
15	21	28,071	-49.2		22	10.1
10	12	30,721	-50.[illegible]			

NASHVILLE, TN
999 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	180	-7.2	-11.3	29	.9
1000	14	223	-12.2	-19.0	32	1.9
950	31	367	-7.4	-12.0	28	4.2
900	31	988	-7.7	-13.6	29	7.3
850	31	1,434	-7.1	-15.4	29	10.9
800	31	1,906	-7.9	-15.9	29	13.4
750	31	2,406	-9.1	-17.8	29	16.1
700	31	2,938	-11.0	-20.2	29	18.5
650	31	3,305	-13.4	-23.1	28	22.1
600	31	4,112	-16.2	-25.7	28	25.3
550	31	4,762	-19.9	-29.7	28	28.1
500	31	5,463	-24.3	-33.4	28	31.4
450	31	6,223	-29.3	-38.8	28	35.0
400	30	7,050	-34.9	-43.9	27	41.2
350	30	7,972	-40.8	-45.6	27	46.1
300	30	9,006	-46.6		27	51.9
250	30	10,200	-52.3		27	56.0
200	30	11,633	-55.2		27	54.8
175	30	12,487	-54.9		27	51.4
150	30	13,469	-56.5		27	46.7
125	30	14,621	-58.7		27	41.9
100	30	16,012	-61.6		27	36.8
80	30	17,388	-63.0		27	29.6
70	30	18,210	-63.0		27	25.3
60	29	19,160	-61.8		27	21.3
50	27	20,292	-59.4		27	17.0
40	23	21,697	-56.8		26	13.4
30	21	23,538	-51.3		24	13.1
25	19	24,712	-49.8		24	12.3
20	17	26,155	-49.2		23	12.1
15	15	28,049	-49.2		23	12.6
10	7	30,714	-48.6			

• NOME, AK
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	5	-4.5	-9.8	07	4.7
1000	17	99	-4.[illegible]	-9.7	07	5.2
950	30	432	-5.2	-9.6	09	7.2
900	30	856	-6.0	-10.5	11	7.0
850	30	1,303	-7.1	-12.3	12	6.4
800	30	1,775	-9.3	-15.2	13	5.4
750	30	2,271	-12.1	-19.7	13	5.4
700	30	2,796	-15.0	-23.1	14	5.[illegible]
650	30	3,353	-18.1	-26.6	15	5.8
600	30	3,947	-21.8	-31.1	15	6.4
550	30	4,582	-26.1	-34.8	16	7.[illegible]
500	30	5,266	-30.5	-38.6	17	7.6
450	30	6,007	-36.0	-41.8	17	8.7
400	30	6,814	-42.1	-43.6	17	[illegible].3
350	30	7,709	-48.1		18	10.1
300	30	8,710	-53.2		18	11.0
250	30	[illegible],875	-55.9		18	10.3
200	29	11,303	-51.9		17	8.7
175	29	12,169	-51.0		17	[illegible].1
150	29	13,175	-50.3		16	8.4
125	29	14,365	-50.3		16	8.0
100	29	15,821	-50.9		15	6.2
80	29	17,273	-51.4		15	4.5
70	29	18,140	-51.6		15	4.0
60	29	19,139	-52.3		15	3.3
50	29	20,315	-53.3		16	1.4
40	29	21,749	-54.1		25	.4
30	26	23,604	-55.9		32	2.7
25	24	24,753	-56.8		32	4.[illegible]
20	21	26,196	-57.4		34	6.1
15	[illegible]	28,009	-57.6			
10						

NORTH PLATTE, NE
919 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	847	-12.8	-16.4	30	1.3
1000						
950						
900	31	1,007	-9.0	-13.0	31	3.8
850	31	1,452	-7.5	-13.9	31	8.6
800	31	1,924	-7.8	-15.0	32	10.8
750	31	2,424	-9.2	-18.3	32	14.0
700	31	2,956	-11.5	-19.6	31	16.5
650	31	3,521	-14.0	-21.9	31	17.6
600	31	4,126	-17.1	-24.8	31	19.5
550	31	4,774	-20.6	-29.1	30	20.9
500	31	5,473	-25.0	-34.1	30	22.4
450	31	6,231	-30.1	-39.0	30	24.9
400	31	7,059	-36.3	-43.5	30	27.4
350	31	7,975	-43.0	-48.2	30	29.7
300	31	8,995	-50.1		30	31.5
250	31	10,169	-55.9		29	32.6
200	31	11,580	-57.8		29	31.6
175	31	12,425	-57.0		29	30.8
150	30	13,402	-55.8		28	30.0
125	30	14,559	-57.8		29	28.3
100	30	15,964	-59.0		29	24.5
80	30	17,357	-60.9		29	20.5
70	30	18,188	-60.5		29	17.1
60	30	19,147	-60.9		29	16.8
50	29	20,287	-60.1		28	15.0
40	29	21,683	-58.9		28	14.4
30	26	23,510	-56.0		26	15.2
25	24	24,677	-54.0		25	15.3
20	20	26,117	-52.0		24	18.4
15	14	28,050	-50.4		23	19.6
10						

OAKLAND, CA
1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	6	5.3	3.0	10	.7
1000	31	168	7.9	2.[illegible]	07	1.2
950	31	592	[illegible].8	.1	04	2.2
900	31	1,039	8.0	-3.[illegible]	01	2.4
850	31	1,509	5.9	-6.3	33	2.1
800	31	2,003	3.8	-9.9	33	2.[illegible]
750	31	2,524	.9	-14.1	33	3.3
700	31	3,076	-2.2	-17.8	32	4.2
650	31	3,660	-6.1	-21.3	32	4.5
600	31	4,282	-10.3	-25.8	32	4.[illegible]
550	31	4,946	-15.[illegible]	-29.9	31	4.[illegible]
500	31	5,658	-20.[illegible]	-33.0	31	4.[illegible]
450	31	6,429	-26.3	-37.8	32	5.4
400	31	7,270	-32.[illegible]	-42.9	32	6.4
350	31	8,200	-39.[illegible]	-47.0	32	8.0
300	31	9,234	-47.1		32	8.8
250	31	10,421	-54.5		32	9.7
200	29	11,835	-59.6		29	11.[illegible]
175	29	12,669	-59.4		29	13.4
150	29	13,637	-58.[illegible]		29	15.2
125	29	14,781	-59.5		29	15.1
100	29	16,169	-62.7		29	13.5
80	29	17,538	-64.7		30	10.1
70	28	18,354	-64.6		30	9.0
60	25	19,297	-63.[illegible]		31	[illegible].3
50	25	20,418	-62.[illegible]		32	7.6
40	25	21,793	-62.7		32	7.1
30	24	23,579	-61.3		31	7.1
25	23	24,720	-60.2		30	7.3
20	21	26,125	-58.3		28	10.[illegible]
15	15	27,991	-55.1		27	11.9
10	6	30,584	-51.7			
7						

OMAHA, NE
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	403	-13.6	-16.3	34	2.[illegible]
1000						
950	31	567	-13.1	-16.0	32	4.4
900	31	980	-12.[illegible]	-15.9	31	7.9
850	31	1,418	-11.2	-16.7	31	10.4
800	31	1,884	-11.1	-18.7	31	11.7
750	31	2,379	-12.7	-21.4	31	13.4
700	31	2,904	-14.4	-23.3	31	15.4
650	31	3,463	-16.[illegible]	-26.1	31	17.4
600	31	4,061	-19.7	-29.7	31	19.8
550	31	4,704	-22.5	-33.4	30	23.[illegible]
500	31	5,397	-26.8	-37.[illegible]	30	25.3
450	31	6,149	-32.[illegible]	-41.3	30	27.1
400	31	6,971	-38.0	-45.2	30	30.3
350	31	7,881	-44.4		29	31.7
300	31	8,896	-50.8		29	34.0
250	31	10,070	-55.3		29	35.0
200	31	11,493	-55.4		29	34.0
175	31	12,345	-54.7		28	31.8
150	31	13,331	-55.[illegible]		28	30.5
125	31	14,489	-56.9		28	29.0
100	31	15,897	-58.7		28	26.3
80	30	17,299	-59.7		28	21.[illegible]
70	30	18,132	-60.2		28	20.4
60	30	19,095	-60.0		28	19.3
50	30	20,235	-59.1		28	16.9
40	26	21,641	-56.6		27	14.4
30	26	23,478	-53.7		26	14.6
25	25	24,650	-52.3		24	14.1
20	20	26,101	-49.6		23	16.3
15	19	27,984	-47.9		23	18.1
10	9	30,689	-49.3			
7						

PAGO PAGO, AMERICAN SAMOA
+ 1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	29.9	24.5	08	2.9
1000	31	75	28.0	23.2	08	3.0
950	31	529	24.1	21.2	07	3.0
900	31	1,001	20.8	18.0	05	2.5
850	31	1,495	17.9	14.2	05	1.8
800	31	2,013	15.5	9.5	05	1.4
750	31	2,559	13.0	6.0	04	1.1
700	31	3,137	10.2	1.6	05	.9
650	31	3,751	7.1	-1.7	36	.4
600	31	4,406	3.5	-7.3	32	.4
550	31	5,107	-.4	-11.4	11	.8
500	31	5,864	-4.8	-16.4	12	1.7
450	31	6,686	-9.7	-22.5	13	2.2
400	31	7,586	-15.1	-29.2	17	3.4
350	31	8,585	-21.8	-35.0	17	3.6
300	31	9,700	-29.9	-42.6	17	7.5
250	31	10,972	-40.0	-50.6	17	11.5
200	31	12,457	-52.0		17	12.9
175	31	13,308	-58.9		17	12.6
150	31	14,258	-66.3		17	12.0
125	31	15,342	-73.9		17	9.0
100	31	16,618	-81.7		16	9.7
80	30	17,858	-84.0		12	7.7
70	30	18,605	-79.8		10	10.0
60	29	19,492	-74.3		09	11.9
50	28	20,568	-69.0		09	14.4
40	26	21,925	-63.1		09	18.5
30	26	23,718	-58.1		09	23.7
25	26	24,876	-54.7		09	26.8
20	25	26,314	-51.1		09	30.1
15	19	28,191	-46.8		09	31.9
10	18	30,911	-41.2		09	31.3
7	10	33,357	-36.4			

• PEORIA, IL
994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	200	-14.7	-19.2	29	2.7
1000	8	223	-18.6	-24.3		
950	31	546	-13.1	-16.5	30	7.3
900	31	959	-12.4	-17.3	30	[illegible].9
850	31	1,396	-12.2	-18.2	30	11.3
800	31	1,859	-12.7	-20.8	30	12.1
750	31	2,351	-13.9	-23.2	30	14.1
700	31	2,873	-15.5	-25.8	30	16.9
650	31	3,430	-17.8	-27.9	29	19.3
600	31	4,026	-20.8	-30.3	29	20.6
550	31	4,664	-24.5	-33.1	29	22.0
500	31	5,353	-28.7	-36.[illegible]	29	24.0
450	31	6,100	-33.7	-40.8	29	26.1
400	31	6,916	-39.2	-45.7	29	28.6
350	31	7,823	-45.1		28	31.7
300	31	8,837	-50.5		28	36.1
250	29	10,012	-53.8		28	36.9
200	28	11,439	-54.5		28	38.2
175	27	12,291	-54.1		28	36.6
150	27	13,280	-54.3		28	35.5
125	25	14,433	-55.4		28	32.3
100	25	15,847	-57.7		28	29.4
80	25	17,249	-59.2		28	24.9
70	25	18,087	-58.6		27	22.2
60	25	19,056	-58.6		27	19.8
50	24	20,207	-56.9		27	17.8
40	24	21,631	-53.9		26	16.3
30	23	23,480	-50.9		24	15.1
25	22	24,679	-49.6		23	15.7
20	22	26,145	-48.6		22	17.4
15	20	28,038	-49.2		22	17.1
10	11	30,663	-49.6			
7						

• PITTSBURGH, PA
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	359	-12.0	-16.1	25	3.7
1000						
950	30	530	-12.8	-15.2	25	5.6
900	31	936	-13.4	-15.3	26	9.1
850	31	1,371	-13.4	-18.0	27	12.2
800	31	1,832	-13.[illegible]	-17.6	27	14.0
750	31	2,322	-14.8	-19.5	28	15.4
700	31	2,842	-16.8	-23.2	28	16.6
650	31	3,396	-19.3	-26.7	28	19.0
600	31	3,988	-22.2	-29.8	28	20.4
550	31	4,624	-25.7	-32.5	28	22.1
500	31	5,309	-29.[illegible]	-37.6	27	24.0
450	31	6,052	-34.6	-40.9	27	25.7
400	31	6,866	-40.0	-44.2	27	28.6
350	31	7,770	-45.5		27	31.7
300	31	8,785	-49.9		27	35.1
250	31	9,968	-53.0		27	38.0
200	31	11,405	-53.3		27	37.1
175	31	12,265	-53.3		27	36.1
150	31	13,257	-53.9		27	34.9
125	31	14,423	-55.[illegible]		27	32.8
100	31	15,837	-57.6		27	29.1
80	28	17,244	-57.9		27	23.0
70	27	18,091	-57.3		26	18.6
60	27	19,066	-57.1		26	17.3
50	27	20,226	-54.4		25	15.5
40	23	21,675	-51.0		24	10.3
30	22	23,562	-49.9		23	8.9
25	21	24,767	-49.0		23	10.7
20	21	26,231	-49.6		22	9.8
15	18	28,123	-50.0		22	8.5
10	7	30,814	-53.7			
7						

PONAPE, CAROLINE IS.
+ 1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	39	27.8	23.0	06	4.2
1000	31	75	26.6	22.0	07	4.9
950	31	527	22.8	20.4	07	9.0
900	31	997	19.4	17.3	07	11.3
850	31	1,488	17.1	12.2	08	10.2
800	31	2,006	16.7	2.3	08	8.2
750	31	2,553	14.3	-2.[illegible]	09	7.9
700	31	3,132	11.0	-7.0	09	9.3
650	31	3,747	7.[illegible]	-9.6	09	10.5
600	31	4,401	3.7	-11.7	09	12.0
550	31	5,103	-.1	-16.3	09	13.1
500	31	5,861	-4.1	-21.2	09	13.[illegible]
450	31	6,685	-8.7	-25.2	09	13.7
400	31	7,588	-14.4	-29.[illegible]	09	12.9
350	30	8,591	-21.[illegible]	-34.7	09	10.5
300	29	9,708	-29.4	-41.[illegible]	10	9.7
250	27	10,984	-39.6	-50.5	12	11.2
200	27	12,470	-52.1		12	14.1
175	27	13,321	-59.1		12	15.4
150	27	14,269	-67.3		11	15.9
125	27	15,347	-75.4		10	16.9
100	26	16,610	-83.4		09	16.2
80	26	17,847	-82.7		09	7.5
70	26	18,603	-77.[illegible]		07	2.0
60	26	19,497	-73.3		10	.7
50	26	20,577	-68.[illegible]		10	4.4
40	25	21,932	-64.2		09	16.4
30	24	23,719	-58.5		09	24.1
25	24	24,874	-55.1		09	26.4
20	23	26,311	-51.5		09	28.4
15	23	28,199	-46.6		09	23.2
10	21	30,926	-40.6		09	1.5
7	[illegible]	33,339	-37.7			

PORTLAND, ME
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	20	-12.5	-17.0	29	2.1
1000	21	100	-9.9	-14.7	33	[illegible].1
950	31	452	-10.7	-15.7	30	4.7
900	31	867	-11.8	-17.2	30	4.[illegible]
850	31	1,304	-12.9	-18.9	29	5.8
800	31	1,766	-13.4	-19.8	28	8.6
750	31	2,255	-15.6	-21.1	27	10.5
700	31	2,774	-18.0	-24.[illegible]	27	12.5
650	31	3,325	-20.[illegible]	-27.5	27	14.7
600	31	3,912	-24.2	-31.9	27	16.8
550	31	4,542	-27.8	-36.8	27	18.2
500	31	5,221	-32.1	-41.0	27	20.0
450	31	5,959	-36.4	-44.4	27	22.0
400	31	6,767	-41.4	-48.4	26	24.3
350	31	7,667	-46.2		26	26.5
300	31	8,680	-50.1		26	26.3
250	31	9,866	-51.9		26	24.9
200	31	11,313	-51.7		26	23.8
175	31	12,179	-52.0		26	24.2
150	31	13,178	-51.[illegible]		26	23.8
125	30	14,356	-53.0		26	23.2
100	30	15,792	-54.1		26	19.5
80	30	17,220	-54.8		26	17.4
70	30	18,075	-54.2		25	16.5
60	30	19,066	-53.2		25	15.5
50	30	20,244	-51.7		25	11.5
40	30	21,695	-50.4		24	9.5
30	28	23,569	-49.2		25	10.1
25	28	24,766	-49.0		26	11.0
20	25	26,231	-49.3		26	13.2
15	23	28,120	-50.7		28	13.5
10	15	30,849	-51.7		31	14.4
7						

• QUILLAYUTE, WA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	58	1.7	.2	08	1.2
1000	30	173	4.0	1.3	10	1.8
950	31	586	4.4	-1.9	15	2.9
900	31	1,025	3.2	-6.7	17	1.9
850	31	1,488	2.3	-11.0	23	1.7
800	31	1,976	.6	-13.2	26	2.9
750	31	2,492	-2.0	-16.9	28	4.2
700	31	3,037	-4.9	-21.3	29	5.3
650	31	3,617	-8.1	-23.1	29	6.3
600	31	4,234	-12.0	-25.8	30	7.3
550	31	4,894	-16.5	-28.8	30	8.6
500	31	5,603	-21.7	-32.3	30	10.2
450	30	6,368	-27.0	-37.4	30	11.4
400	29	7,203	-33.4	-42.9	30	12.9
350	28	8,141	-40.3	-46.6	30	14.2
300	28	9,172	-48.3		31	14.4
250	28	10,350	-56.7		31	16.3
200	28	11,741	-63.1		31	15.9
175	28	12,561	-63.3		31	15.7
150	27	13,514	-60.0		31	14.3
125	27	14,655	-58.8		31	15.4
100	27	16,055	-60.0		31	13.1
80	25	17,447	-60.8		31	12.9
70	24	18,278	-60.9		31	12.2
60	24	19,236	-60.9		31	12.8
50	24	20,369	-61.4		32	12.0
40	24	21,751	-61.7		32	12.3
30	23	23,525	-62.0		32	13.0
25	17	24,675	-61.9		33	11.3
20	14	26,064	-60.2		32	10.3
15	11	27,906	-57.5		32	5.9
10						
7						

RAPID CITY, SD
905 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	966	-11.9	-16.6	34	3.0
1000						
950						
900	24	1,025	-11.4	-16.8	33	3.0
850	31	1,448	-8.4	-15.[illegible]	32	8.5
800	31	1,917	-9.8	-17.9	32	12.[illegible]
750	31	2,414	-11.3	-20.4	32	14.4
700	31	2,942	-13.4	-21.5	32	16.[illegible]
650	31	3,503	-16.0	-23.4	32	18.[illegible]
600	31	4,102	-19.5	-26.5	31	19.4
550	31	4,744	-23.1	-30.4	31	21.0
500	31	5,436	-27.4	-34.5	31	22.7
450	31	6,187	-32.4	-39.7	31	25.0
400	31	7,008	-38.1	-44.0	31	27.2
350	31	7,917	-44.7		31	30.0
300	31	8,930	-51.3		31	31.1
250	31	10,099	-56.6		31	32.0
200	30	11,510	-58.1		30	28.[illegible]
175	30	12,353	-57.1		30	27.1
150	29	13,333	-56.6		30	25.6
125	28	14,489	-57.1		30	23.6
100	28	15,894	-59.4		30	21.3
80	26	17,287	-60.3		30	19.4
70	24	18,128	-60.5		30	17.8
60	24	19,089	-60.3		29	16.2
50	24	20,226	-60.3		28	13.5
40	20	21,635	-59.4		27	14.3
30	19	23,438	-57.6		26	16.0
25	17	24,593	-56.0		26	15.4
20	9	26,014	-54.4			
15	7	27,873	-52.8			
10						
7						

ST CLOUD, MN
980 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	316	-21.5	-24.8	30	2.4
1000						
950	31	548	-18.3	-20.1	32	5.6
900	31	953	-16.7	-19.7	32	8.1
850	31	1,383	-16.1	-21.6	32	9.2
800	31	1,840	-16.6	-23.3	32	10.1
750	31	2,324	-17.4	-25.4	32	10.9
700	31	2,839	-19.4	-26.8	31	12.5
650	31	3,388	-21.5	-28.9	31	14.2
600	31	3,974	-24.7	-31.8	31	15.4
550	31	4,603	-28.4	-34.0	31	17.0
500	31	5,280	-32.6	-38.5	31	18.1
450	31	6,015	-37.2	-41.2	30	19.7
400	31	6,820	-42.5	-44.7	30	21.5
350	31	7,714	-47.9		30	24.1
300	31	8,717	-52.4		30	26.0
250	31	9,889	-54.5		30	25.7
200	31	11,321	-53.9		30	25.2
175	31	12,179	-53.[illegible]		30	24.9
150	30	13,166	-54.2		29	24.1
125	30	14,332	-55.2		29	22.1
100	30	15,752	-56.6		29	21.0
80	30	17,161	-58.1		29	19.1
70	30	18,002	-58.6		29	17.9
60	30	18,972	-58.4		28	17.0
50	30	20,122	-57.5		28	15.5
40	28	21,549	-56.1		26	14.8
30	28	23,386	-53.6		25	16.2
25	27	24,556	-52.3		24	18.2
20	25	26,001	-51.7		23	21.2
15	12	27,928	-49.6			
10						
7						

RAWINSONDE DATA

Average monthly values

JANUARY 1977

• ST PAUL ISLAND, AK
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	[illegible]	-.9	-3.5	06	5.3
1000	5	63	-2.3	-4.1		
950	31	328	-2.3	-3.4	08	7.4
900	31	756	-4.1	-6.2	09	8.1
850	31	[illegible]	-6.4	-11.0	10	8.1
800	31	1,671	-8.8	-15.5	11	7.9
750	31	[illegible]	-11.5	-20.1	11	8.0
700	31	[illegible]	-14.9	-24.0	12	8.5
650	31	[illegible]	-18.4	-28.6	12	8.7
600	31	3,851	-22.3	-32.6	13	9.7
550	31	4,484	-26.7	-36.6	13	10.3
500	31	5,166	-31.2	-41.3	13	11.5
450	31	5,905	-36.3	-45.1	14	11.8
400	31	6,712	-42.3	-48.8	14	12.7
350	31	7,605	-48.5		14	14.1
300	31	8,604	-53.9		14	14.5
250	31	9,773	-54.2		14	13.5
200	31	[illegible]	-51.2		15	12.6
175	31	[illegible]	-50.0		15	13.1
150	31	13,094	-49.0		14	12.0
125	31	14,295	-48.2		15	[illegible]
100	31	15,764	-48.5		15	10.7
80	31	17,231	-48.7		15	9.0
70	31	18,107	-49.6		14	8.3
60	31	[illegible]	-50.0		14	6.6
50	31	20,306	-50.7		15	6.1
40	31	21,757	-51.8		15	4.7
30	31	23,613	-53.9		14	2.1
25	[illegible]	24,789	-54.9		13	1.2
20	29	[illegible]	-55.7		03	[illegible]
15	29	[illegible]	-56.2		01	[illegible]
10	10	30,686	-56.0			

SALEM, IL
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	174	-12.2	-15.3	29	2.2
1000	12	219	-15.8	-19.3	28	2.6
950	31	554	-10.7	-15.4	30	6.9
900	31	971	-10.2	-16.9	30	9.4
850	31	1,412	-9.7	-17.3	30	11.4
800	31	1,879	-10.4	-17.9	29	13.0
750	31	2,376	-11.7	-19.3	29	15.0
700	31	2,902	-13.7	-22.6	29	17.2
650	31	3,463	-16.2	-25.9	29	19.5
600	31	4,062	-19.0	-28.6	29	22.2
550	31	4,706	-22.5	-32.9	29	24.5
500	31	5,400	-26.6	-36.9	28	26.4
450	31	6,153	-31.5	-41.2	28	28.1
400	31	6,977	-37.2	-46.1	28	[illegible]
350	31	7,891	-43.1		28	36.1
300	31	8,913	-48.7		28	38.4
250	31	10,099	[illegible]		28	39.6
200	31	11,533	-53.8		28	39.0
175	31	12,391	-54.0		28	39.0
150	31	13,378	-54.8		28	37.9
125	31	14,539	-57.0		28	34.0
100	31	15,944	-59.2		28	28.3
80	31	17,336	-60.6		27	25.3
70	31	18,168	-60.4		27	21.0
60	30	19,134	-59.5		27	18.4
50	30	20,280	-58.2		27	15.5
40	29	21,695	-55.2		26	11.6
30	29	23,548	[illegible]		24	12.0
25	28	24,732	-50.2		23	11.4
20	26	26,205	-49.1		[illegible]	11.6
15	26	28,089	-50.3		21	10.7
10	17	30,750	-50.6		22	9.5

SALEM, OR
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	61	.1	-2.6	24	.5
1000	29	183	3.0	-.2	26	.3
950	31	592	5.3	-2.1	20	.6
900	31	1,034	5.2	-5.5	23	2.3
850	31	1,499	3.5	-9.4	25	2.3
800	31	1,990	1.5	-12.4	28	2.6
750	31	2,507	-1.2	-16.2	31	3.2
700	31	3,053	-4.5	-18.4	32	4.4
650	31	3,633	-7.7	-22.4	32	5.2
600	31	4,251	-11.7	-25.4	32	6.4
550	31	4,912	-16.0	-28.3	32	7.7
500	31	5,623	-20.9	-33.2	32	8.9
450	31	6,393	-26.4	-37.7	32	9.7
400	31	7,234	-32.8	[illegible]	31	10.7
350	31	8,163	-39.8	-46.0	31	12.3
300	31	9,196	-47.9		32	14.2
250	31	10,375	-56.3		32	15.4
200	31	[illegible]	-62.2		32	15.1
175	31	12,593	-62.5		31	14.9
150	31	13,551	-59.3		31	15.1
125	31	14,696	-58.9		31	14.5
100	31	16,093	-60.4		31	13.5
80	31	17,477	-62.0		31	12.1
70	30	18,303	-61.9		31	11.0
60	27	19,255	-61.8		31	10.7
50	25	20,388	-61.8		33	10.2
40	23	21,775	-62.0		33	10.8
30	22	23,555	-62.2		33	10.2
25	21	24,682	-61.9		33	9.0
20	16	26,067	-60.0		31	8.8
15	13	27,873	-59.2		28	10.7

SALT LAKE CITY, UT
875 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,288	-5.1	-7.9	15	1.8
850	31	1,515	-3.3	-7.6	18	2.0
800	31	1,995	-3.9	-10.4	23	2.3
750	31	2,503	-6.0	-14.2	28	3.7
700	31	3,040	-8.5	-18.0	29	[illegible]
650	31	3,613	-10.8	-21.6	30	7.9
600	31	4,225	-14.0	-25.9	31	9.4
550	31	4,880	-17.9	-30.0	31	11.4
500	31	5,586	-22.8	-32.9	31	12.0
450	31	6,350	-28.2	-37.6	31	12.7
400	31	7,185	-34.0	-42.8	31	13.5
350	31	8,110	-41.1	-46.1	31	15.5
300	31	9,137	-48.9		31	16.4
250	31	10,314	-56.3		31	18.0
200	31	11,714	-60.6		30	18.0
175	31	12,544	-61.0		29	19.9
150	30	13,513	-58.7		29	19.3
125	30	14,657	-59.4		29	[illegible]
100	30	16,046	-61.6		29	[illegible]
80	29	17,419	-63.1		30	16.2
70	28	18,239	-63.1		30	13.4
60	28	19,187	-63.5		30	13.3
50	28	20,307	-63.3		30	12.6
40	27	21,682	-63.2		31	11.5
30	25	23,466	-61.3		29	11.6
25	22	24,619	-58.7		27	12.7
20	20	26,024	-57.0		26	16.1
15	12	27,874	-54.0		26	18.5
10	5	30,516	-47.7			

SAN DIEGO, CA
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	124	9.6	6.7	08	1.2
1000	27	148	11.9	4.8	06	1.3
950	31	573	12.1	2.1	13	1.0
900	31	1,024	9.5	-1.4	14	.8
850	31	1,495	[illegible]	-4.1	14	.3
800	31	1,991	4.4	-8.5	30	.5
750	31	2,514	1.7	-12.4	27	1.5
700	31	3,067	-1.5	-15.6	28	2.7
650	31	3,653	-5.0	-19.2	29	3.9
600	31	4,277	-9.0	-23.9	28	5.6
550	31	4,946	[illegible]	-27.5	28	7.1
500	31	5,664	-18.5	-32.6	28	9.2
450	31	6,442	-24.1	-36.6	28	11.9
400	31	7,290	[illegible]	-42.2	27	13.1
350	31	8,229	-37.2	-47.5	27	15.8
300	30	9,284	-44.6		27	18.2
250	30	10,483	-52.6		26	25.7
200	30	11,905	-57.8		26	27.6
175	30	12,746	-58.5		26	25.6
150	30	13,716	-58.5		26	24.0
125	30	14,857	-61.1		27	23.3
100	30	16,230	-65.3		27	19.0
80	30	17,582	-66.9		28	13.7
70	29	18,390	-67.0		28	10.6
60	29	19,322	-66.2		29	8.1
50	29	20,433	-64.3		30	7.0
40	26	21,803	-62.0		30	6.0
30	24	23,599	-59.3		28	6.8
25	22	24,751	-57.6		27	8.1
20	17	26,167	-55.0		26	11.2
15	[illegible]	28,003	-52.8			

SAN JUAN, P. R.
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	6	20.4	18.8	10	1.4
1000	31	137	21.8	18.7	11	2.3
950	31	582	19.2	16.1	11	4.4
900	31	1,046	16.3	12.3	11	4.8
850	31	1,530	13.3	8.6	11	4.9
800	31	2,039	11.4	3.7	11	4.2
750	31	2,578	10.3	-4.4	11	[illegible]
700	31	3,150	8.4	-10.3	11	1.8
650	31	3,760	5.7	-12.9	08	.6
600	31	4,410	2.4	-17.6	32	1.7
550	31	5,108	-1.7	-22.2	31	3.0
500	31	5,859	-6.6	-26.1	31	5.0
450	[illegible]	6,674	-11.6	-30.6	30	6.1
400	[illegible]	7,566	-18.0	-35.9	31	7.8
350	30	8,552	-25.6	-42.3	31	10.3
300	30	9,647	-34.3	-49.6	31	13.0
250	[illegible]	10,898	[illegible]		30	16.3
200	30	[illegible]	-53.3		29	20.1
175	30	[illegible]	-59.4		29	20.8
150	30	[illegible]	-65.2		30	20.1
125	30	[illegible]	-71.7		29	17.6
100	30	16,555	-77.7		29	11.7
80	29	17,820	-81.4		[illegible]	5.2
70	[illegible]	18,572	-80.2		32	1.1
60	29	19,450	-76.3		09	1.0
50	29	20,526	-66.7		10	3.5
40	27	21,894	-60.9		09	6.3
30	26	23,704	-55.9		10	12.7
25	25	24,870	-53.7		10	18.2
20	[illegible]	26,313	-51.7		11	19.1
15	24	28,187	-49.8		11	16.1
10	[illegible]	30,861	-45.7		11	6.3
7	[illegible]	33,241	-38.4			

• SAULT STE MARIE, MI
983 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	221	-15.4	-18.8	31	1.5
950	31	478	-15.1	-17.4	31	4.3
900	31	866	[illegible]	-18.8	31	[illegible]
850	31	1,316	-17.6	-21.2	31	[illegible]
800	31	1,769	-18.6	-23.6	31	7.3
750	31	2,249	-19.7	-24.2	31	7.9
700	31	2,759	-21.5	-27.0	31	8.1
650	31	3,304	-23.7	[illegible]	31	8.3
600	31	3,885	-26.4	-33.1	30	9.2
550	31	4,509	-30.0	-36.3	30	10.2
500	31	5,182	-34.3	-40.4	30	11.0
450	31	5,912	-39.0	-43.5	29	12.9
400	31	6,711	-44.5	[illegible]	29	13.7
350	31	7,598	-49.4		29	16.8
300	31	8,597	-52.9		28	19.1
250	31	9,769	-54.0		28	19.4
200	31	11,205	-53.0		28	19.3
175	30	12,067	-52.6		28	18.3
150	30	13,063	-53.0		28	18.1
125	30	14,237	-53.9		28	17.2
100	30	15,665	-55.5		28	16.7
80	30	17,088	-55.6		[illegible]	14.5
70	30	17,939	-55.7		27	14.4
60	29	18,921	-55.2		26	14.1
50	28	20,096	-54.1		25	14.7
40	28	21,533	-52.5		[illegible]	14.6
30	27	23,392	-52.1		24	16.6
25	27	24,573	-52.0		24	18.9
20	26	26,019	-51.4		23	21.0
15	26	27,888	-51.2		24	23.4
10	22	30,533	-50.1		24	26.8
7	9	32,967	-49.2			

SPOKANE, WA
937 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	720	-6.2	-7.5	10	.4
900	31	1,037	-5.7	-7.5	18	1.0
850	31	1,486	-4.3	-13.0	26	2.8
800	31	1,964	-3.8	-15.7	29	5.2
750	31	2,473	-5.2	-17.9	30	4.4
700	31	3,012	-8.2	-19.0	31	8.4
650	31	3,584	-11.4	-22.5	31	10.7
600	31	4,194	-14.9	-25.3	31	13.0
550	31	4,847	-18.6	-29.3	32	14.7
500	31	5,552	-22.9	-33.7	32	[illegible]
450	31	6,316	-28.4	-38.2	32	18.5
400	30	7,153	-34.3	-43.7	32	20.1
350	30	8,077	-41.2	-46.0	32	22.0
300	[illegible]	9,104	-49.3		32	23.4
250	30	[illegible]	-56.7		32	24.4
200	30	11,675	-61.7		32	24.3
175	30	12,502	-61.4		32	21.3
150	[illegible]	13,464	-58.7		31	21.2
125	30	14,611	-58.4		31	18.6
100	30	16,009	-60.1		31	17.9
80	30	17,399	-61.0		31	15.3
70	30	18,228	-61.2		32	14.7
60	30	[illegible]	-62.1		32	14.5
50	27	20,310	-62.0		31	14.8
40	25	21,700	-61.5		31	14.5
30	22	23,480	-61.8		31	11.7
25	18	24,619	-61.4		32	11.7
20	18	[illegible]	-60.3		31	10.0
15	13	[illegible]	-57.2		30	4.4
10	6	30,467	-51.5			

TAMPA BAY, FL
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	8	7.8	5.4	04	1.0
1000	31	151	9.5	4.6	02	1.3
950	31	578	9.9	2.3	25	2.6
900	31	1,028	9.2	-1.6	26	[illegible]
850	31	1,501	8.3	-5.1	27	[illegible]
800	31	2,000	6.7	-6.7	27	11.8
750	31	2,528	4.6	-7.4	27	14.7
700	31	3,088	2.2	-11.2	27	17.7
650	31	3,684	-.7	-14.8	27	20.4
600	31	4,319	-4.4	-17.6	27	23.3
550	31	4,999	-8.3	-22.8	27	25.7
500	31	5,732	-12.4	-27.9	27	29.5
450	31	6,530	-17.2	-30.4	27	34.8
400	31	7,402	-23.0	-34.9	27	37.0
350	31	8,370	-29.9	-40.7	27	40.8
300	31	9,448	-37.6	-47.3	27	44.6
250	31	10,682	-46.7		27	48.5
200	31	12,129	-56.4		27	50.5
175	31	12,969	-60.2		27	48.9
150	31	13,922	-64.3		27	48.4
125	31	15,026	-68.5		27	41.0
100	30	16,347	-72.8		27	32.6
80	30	17,649	-73.8		27	22.8
70	30	18,430	-73.2		27	15.8
60	28	19,342	-69.4		27	8.1
50	28	20,447	-63.8		26	7.4
40	28	21,834	-58.8		25	3.2
30	28	23,661	-54.4		10	3.6
25	28	24,835	-53.0		09	10.4
20	28	26,278	-51.8		09	16.3
15	26	28,148	-51.2		10	14.7
10	21	30,781	-49.2		12	6.4
7	9	33,154	-44.2			

TOPEKA, KS
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	268	-11.7	-15.4	31	1.3
950	31	582	[illegible]	-13.0	31	7.4
900	31	1,001	-8.2	-13.3	31	9.0
850	31	1,445	-8.1	-14.4	31	9.5
800	31	1,916	-8.4	-16.6	31	11.1
750	31	2,416	[illegible]	-18.7	30	12.6
700	31	2,947	-11.4	-21.3	30	15.6
650	31	3,513	[illegible]	-23.9	30	18.0
600	31	4,118	-16.7	-27.1	30	20.1
550	31	4,768	-20.2	-30.1	30	23.2
500	31	5,467	-24.7	-34.5	30	25.2
450	31	6,227	-29.6	-40.1	29	27.2
400	31	7,056	-35.9	-44.8	28	28.1
350	31	7,974	-42.7	-48.3	28	29.0
300	31	8,996	-49.6		27	33.8
250	31	10,175	-54.9		27	41.4
200	31	11,594	-56.5		27	39.9
175	31	12,443	-56.3		27	37.5
150	31	13,423	-55.9		27	35.6
125	31	14,578	-57.8		27	34.6
100	30	15,971	-60.4		27	25.9
80	28	17,358	-61.5		27	21.7
70	28	18,187	-61.4		27	18.2
60	26	19,133	-61.2		27	16.7
50	25	20,268	-59.9		26	13.9
40	23	21,653	-58.1		26	12.4
30	23	23,478	-54.6		25	9.5
25	21	24,640	-52.7		24	9.3
20	21	26,089	-50.6		23	9.2
15	16	27,967	-49.4			
10	8	30,624	-49.3			

TRUK, CAROLINE IS.
+ 1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	2	27.8	23.0	06	5.2
1000	31	92	27.0	22.3	06	7.1
950	31	545	23.4	20.0	07	9.4
900	31	1,016	20.2	16.0	07	10.8
850	31	1,508	17.6	10.0	08	9.7
800	31	2,026	16.7	2.8	09	[illegible]
750	31	2,574	14.6	-2.2	09	8.5
700	31	3,154	[illegible]	-6.4	09	9.3
650	[illegible]	3,770	8.1	[illegible]	09	10.6
600	31	4,426	4.5	[illegible]	09	11.9
550	31	5,130	.6	-16.1	09	12.4
500	31	5,888	-3.6	-20.6	09	13.4
450	31	6,714	-8.3	-24.4	09	13.7
400	31	7,619	-13.8	-29.3	09	12.9
350	31	8,623	-20.7	-33.2	09	11.4
300	31	9,741	-29.3	-41.4	10	9.6
250	31	11,016	-39.6	-51.0	12	11.3
200	31	12,503	-51.9		12	13.6
175	31	13,354	[illegible]		12	15.1
150	31	14,303	-67.1		12	17.4
125	31	15,380	-75.7		11	19.9
100	31	16,645	-82.8		10	18.5
80	[illegible]	17,883	-82.8		10	[illegible]
70	30	18,640	-77.0		10	4.5
60	[illegible]	19,533	-73.5		20	[illegible]
50	30	20,612	-68.6		10	3.6
40	[illegible]	[illegible]	-63.8		09	13.4
30	[illegible]	[illegible]	-59.3		09	23.5
25	27	24,900	[illegible]		09	25.1
20	27	26,335	-51.2		09	26.9
15	26	28,724	-46.5		09	25.4
10	20	30,955	-40.5		10	9.3
7	[illegible]	33,390	-38.2			

• TUCSON, AZ
926 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	789	6.3	1.6	15	1.7
900	31	1,023	9.1	.4	16	1.7
850	31	1,495	7.2	-3.0	21	1.3
800	31	1,992	4.1	-5.7	23	2.7
750	31	2,513	1.1	-10.6	25	3.8
700	31	3,065	-1.9	[illegible]	26	5.1
650	31	[illegible]	-4.6	-19.4	27	6.8
600	31	4,278	-8.4	-22.6	27	9.1
550	31	4,947	-12.8	-25.7	27	11.2
500	31	5,667	-17.9	[illegible]	[illegible]	13.7
450	31	6,448	-22.9	-35.2	27	16.5
400	31	7,300	-29.1	[illegible]	27	19.3
350	31	8,245	-35.6	-46.1	27	22.6
300	31	9,298	-43.2	-50.2	26	28.4
250	31	[illegible]	-51.3		26	35.6
200	31	11,931	-57.0		26	43.0
175	31	12,775	-58.1		26	39.9
150	31	13,743	-59.4		26	33.8
125	31	14,878	-61.9		26	30.4
100	30	16,249	-66.3		27	24.4
80	[illegible]	17,589	-68.4		27	18.9
70	25	18,390	-67.8		27	15.8
60	[illegible]	19,322	[illegible]		28	12.1
50	23	20,435	-63.7		[illegible]	9.4
40	[illegible]	21,826	-60.7		[illegible]	5.5
30	[illegible]	23,635	-57.7		[illegible]	7.6
25	15	24,788	-55.2		26	[illegible]
20	14	26,218	-53.8		26	11.6
15	9	28,087	-52.2			

• VANDENBERG AFB, CA
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	100	8.5	4.0	09	1.2
1000	31	151	11.5	4.4	07	1.3
950	31	581	11.9	-.3	02	1.5
900	31	1,032	9.7	-3.4	05	1.2
850	31	1,504	7.1	-6.4	06	[illegible]
800	31	2,000	4.6	-8.7	03	1.6
750	31	2,524	1.9	-12.9	34	[illegible]
700	31	3,077	-1.3	-17.3	34	2.6
650	31	3,664	-4.7	-20.4	33	3.3
600	31	4,289	-8.9	-23.2	33	3.2
550	31	4,956	-13.7	-27.1	32	4.0
500	31	5,673	-19.3	-31.4	31	4.5
450	31	6,448	-25.0	-37.5	30	[illegible]
400	31	7,293	-31.1	-43.1	28	7.6
350	31	8,229	-38.0	-48.9	29	9.1
300	31	[illegible]	-45.6		28	11.4
250	31	10,465	-53.1		28	14.6
200	31	11,884	-58.3		27	16.3
175	31	12,724	-58.2		27	17.5
150	31	13,697	-57.5		27	17.2
125	31	14,844	-59.8		27	16.0
100	30	[illegible]	-63.6		28	14.0
80	28	17,586	-65.5		28	10.4
70	28	18,397	-65.6		28	8.7
60	28	19,337	-64.5		30	7.7
50	27	20,456	-63.5		30	[illegible]
40	26	21,832	-62.1		30	5.5
30	26	23,620	-59.6		29	4.8
25	26	24,763	-58.5		28	7.1
20	24	26,180	-56.7		27	10.2
15	23	28,029	-53.3		26	12.7
10	22	[illegible]	-49.4		25	17.7
7	17	33,031	-44.8		25	18.2

VICTORIA, TX
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	33	5.0	2.3	02	2.9
1000	31	159	6.5	2.4	04	3.3
950	31	581	7.0	2.3	09	1.3
900	31	1,028	7.9	.3	25	2.8
850	31	1,498	6.9	-1.5	27	6.3
800	31	1,996	5.7	-5.5	28	8.6
750	31	2,523	3.9	-8.6	28	11.3
700	31	3,081	.9	-12.4	28	13.3
650	31	3,674	-1.2	-17.6	27	15.2
600	31	4,308	-4.8	-20.2	27	[illegible]
550	31	4,988	-8.9	-23.6	27	21.6
500	31	5,719	-13.7	-26.5	27	25.2
450	31	6,512	-18.8	-32.2	27	28.3
400	31	7,379	-24.8	-37.6	26	32.3
350	31	8,340	-31.8	-43.9	27	37.5
300	31	9,410	-39.3	-48.1	27	[illegible]
250	31	10,634	-48.2		26	[illegible]
200	31	12,072	-57.8		27	54.3
175	31	12,908	-60.4		27	52.3
150	31	13,862	-63.6		26	48.5
125	30	14,971	-67.5		27	41.2
100	30	16,302	-71.4		27	30.4
80	26	17,615	-72.9		27	23.8
70	25	18,395	-72.2		27	20.0
60	23	19,308	-70.0		27	[illegible]
50	23	20,406	-65.4		27	7.2
40	22	21,784	-60.4		27	7.2
30	20	23,606	-55.3		25	6.0
25	17	24,766	-53.0		24	3.9
20	16	26,213	-51.9		21	3.4
15	15	28,082	-51.4		12	6.6
10	12	30,709	-49.0		14	2.9
7	7	33,115	-43.7			

• WAKE IS., PACIFIC AREA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	24.7	19.6	03	3.2
1000	30	124	23.7	17.6	05	3.3
950	30	571	19.6	16.1	05	3.5
900	30	1,034	16.1	12.6	05	2.9
850	30	1,519	14.7	4.3	[illegible]	2.4
800	29	2,032	14.1	-3.2	35	3.8
750	29	2,575	13.1	-8.1	32	5.1
700	29	3,152	10.8	-11.1	30	5.4
650	29	3,767	7.8	-13.4	30	7.4
600	29	4,422	3.9	-16.5	28	8.5
550	29	5,123	-.4	-20.6	28	8.7
500	29	5,877	[illegible]	-25.3	29	10.0
450	29	6,695	-10.7	-29.6	29	12.4
400	29	7,591	-16.6	-34.4	29	14.2
350	29	8,585	-22.9	-39.9	28	14.3
300	29	9,694	[illegible]	-47.0	28	14.5
250	29	10,960	[illegible]		28	16.6
200	28	12,440	-52.7		28	17.8
175	28	13,289	-59.4		28	17.8
150	28	14,237	-67.0		27	17.0
125	27	15,318	-75.1		27	16.4
100	27	16,585	-83.0		26	12.6
80	26	17,817	-85.2		26	5.9
70	26	18,558	-81.6		[illegible]	1.9
60	25	19,433	-75.6		13	.6
50	24	20,510	-67.2		09	2.5
40	23	21,868	-62.7		09	5.1
30	23	23,656	-59.2		09	8.0
25	22	24,809	-55.8		08	9.9
20	21	26,242	-52.4		08	11.9
15	17	28,100	-49.8		09	9.5
10	15	30,771	-45.9		11	5.3
7	10	33,164	-41.2			

RAWINSONDE DATA

Average monthly values

JANUARY 1977

• WALLOPS ISLAND, VA NASA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	4	-4.8	-10.0	30	3.0
1000	31	112	-5.0	-11.8	31	5.6
950	31	527	-5.6	-12.9	30	8.5
900	31	944	-6.1	-14.9	29	8.8
850	31	1,390	-7.3	-16.4	29	10.7
800	31	1,862	-8.2	-18.1	28	11.9
750	31	2,362	-10.0	-20.2	28	14.0
700	31	2,842	-11.9	-23.2	27	17.4
650	31	3,457	-14.4	-25.3	27	20.2
600	31	4,060	-17.7	-28.5	27	23.5
550	31	[illegible]	-21.1	-32.0	27	27.8
500	31	[illegible]	-25.3	-36.4	27	32.0
450	31	6,142	-30.3	-38.8	27	36.0
400	31	6,990	-35.5	-44.1	27	40.9
350	31	7,911	-41.5	-47.7	27	46.3
300	31	8,940	-47.6		27	51.1
250	31	10,131	-52.4		27	52.1
200	31	11,568	-53.8		27	51.1
175	31	12,417	-53.6		27	48.4
150	31	13,417	-54.4		27	46.2
125	30	14,582	-56.4		27	41.6
100	30	15,991	-58.8		27	34.1
80	30	17,388	-59.6		26	27.6
70	30	18,225	-58.5		26	23.2
60	29	19,188	-57.9		26	20.3
50	29	20,346	-54.8		25	16.2
40	29	21,785	-51.[illegible]		24	11.6
30	28	23,668	-48.4		24	9.8
25	28	24,871	-47.7		23	6.6
20	27	26,336	-48.3		21	4.9
15	27	28,224	-49.8		18	4.7
10	23	30,885	-48.4		32	.7
7	10	33,244	-47.6			

WASHINGTON DULLES INT. AP
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	85	-8.6	-14.5	30	2.1
1000	22	148	-8.5	-15.8	31	2.9
950	31	566	-8.5	-15.4	30	7.3
900	31	935	-9.4	-15.2	29	8.7
850	31	1,377	-10.3	-16.7	29	10.1
800	31	1,843	-11.2	-18.5	29	12.0
750	31	2,338	-11.9	-20.2	29	13.7
700	31	2,864	-13.6	-23.1	28	15.8
650	31	3,425	-16.1	-26.1	28	17.8
600	31	4,024	-19.5	-28.8	27	20.0
550	31	4,666	-23.2	-32.1	27	22.9
500	31	5,358	-27.4	-36.5	27	25.2
450	31	6,109	-32.3	-39.5	27	27.2
400	31	6,930	-38.0	-45.1	27	31.2
350	31	7,842	-43.5	-45.8	27	36.9
300	31	8,863	-48.7		27	42.6
250	31	10,050	-52.9		27	42.9
200	31	11,484	-53.9		27	40.9
175	31	12,343	-53.3		27	39.1
150	31	13,335	-53.9		27	35.8
125	31	14,499	-56.5		27	33.6
100	31	15,908	-58.6		26	28.1
80	31	17,305	-59.9		26	25.1
70	31	18,142	-58.7		26	21.6
60	31	19,110	-58.4		26	18.9
50	30	20,270	-55.4		26	14.0
40	30	21,704	-52.3		24	9.3
30	29	23,580	-49.8		24	8.7
25	29	24,776	-49.0		24	9.7
20	29	26,242	-49.0		22	7.3
15	26	28,128	-50.8		21	5.6
10	13	30,830	-50.5			
7						

WAYCROSS, GA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	44	1.8	-1.5	30	1.4
1000	31	150	2.4	-3.9	32	2.5
950	31	565	2.3	-7.0	30	5.1
900	31	1,003	3.3	-10.9	28	7.5
850	31	1,466	3.1	-11.4	28	11.8
800	31	1,956	1.2	-12.9	28	14.4
750	31	2,474	-.3	-13.6	27	17.7
700	31	3,024	-2.6	-14.9	27	21.1
650	31	3,608	-5.5	-18.6	27	24.8
600	31	4,233	-8.5	-21.5	27	28.6
550	31	4,903	-12.4	-25.2	27	31.5
500	31	5,625	-17.0	-28.5	27	35.3
450	31	6,409	-21.7	-32.7	27	38.5
400	31	7,267	-27.2	-36.6	27	44.1
350	31	8,219	-33.6	-41.5	27	49.1
300	31	9,282	-41.1	-45.8	27	51.4
250	30	10,500	-49.2		27	53.3
200	30	11,94[illegible]	-56.3		27	58.3
175	29	12,780	-58.4		27	56.5
150	29	13,744	-61.0		27	56.4
125	28	14,865	-64.9			
100	28	16,214	-68.5			
80	26	17,553	-69.3			
70	25	18,349	-68.6			
60	24	19,282	-65.2			
50	24	20,400	-62.0			
40	24	21,796	-57.4		21	3.0
30	24	23,638	-51.8		11	9.5
25	23	24,827	-51.2		10	14.0
20	22	26,282	-51.2		10	18.8
15	22	28,153	-50.9		10	19.4
10	18	30,784	-49.1		12	8.9
7	8	33,150	-46.3			

WINNEMUCCA, NV
872 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,312	-7.9	-11.9	16	.6
1000						
950						
900						
850	31	1,516	-1.9	-5.4	15	1.1
800	31	2,000	-1.3	-9.5	24	1.5
750	31	2,513	-3.1	-14.2	29	3.1
700	31	3,057	-5.2	-17.1	30	4.0
650	31	3,636	-8.2	-19.6	31	5.2
600	31	4,253	-11.8	-22.8	31	6.2
550	31	4,914	-16.1	-26.9	31	6.[illegible]
500	31	5,625	-20.8	-31.3	31	8.2
450	31	6,396	-26.5	-36.0	32	8.6
400	31	7,236	-33.0	-41.8	32	[illegible].0
350	31	8,163	-40.2	-45.[illegible]	32	9.6
300	30	9,193	-48.1		32	11.2
250	30	10,374	-55.6		32	13.6
200	30	11,777	-60.6		30	13.0
175	30	12,609	-59.8		30	14.6
150	30	13,577	-57.9		29	15.[illegible]
125	30	14,724	-58.9		30	14.9
100	30	16,117	-61.2		30	13.7
80	30	17,495	-62.8		30	13.[illegible]
70	30	18,318	-62.8		31	12.4
60	30	19,270	-62.3		31	10.7
50	30	20,396	-62.2		31	10.0
40	27	21,777	-62.0		32	10.4
30	26	23,562	-60.6		31	10.1
25	25	24,701	-59.8		29	9.[illegible]
20	24	26,110	-57.8		28	13.0
15	18	27,942	-54.5		26	14.4
10						
7						

WINSLOW, AZ
853 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,487	-6.9	-9.4	16	1.2
1000						
950						
900						
850	23	1,540	-5.3	-7.2	15	.9
800	31	2,000	-1.2	-7.9	31	2.0
750	31	2,516	-1.7	-11.8	30	2.[illegible]
700	31	3,062	-3.9	-16.2	28	3.2
650	31	3,644	-7.0	-21.1	27	4.3
600	31	4,264	-10.8	-25.3	28	7.2
550	31	4,927	-15.1	-29.0	28	9.5
500	31	5,641	-20.0	-32.1	28	11.4
450	30	6,416	-25.2	-36.7	28	13.8
400	30	7,261	-31.4	-42.6	28	15.7
350	30	8,196	-38.2	-47.3	27	18.9
300	30	9,238	-45.6		27	21.6
250	30	10,434	-52.5		27	27.1
200	30	11,857	-57.4		27	32.4
175	29	12,700	-58.0		27	32.0
150	28	13,662	-58.5		27	30.7
125	28	14,803	-60.3		27	27.2
100	27	16,178	-63.4		27	23.0
80	26	17,535	-65.5		28	17.8
70	26	18,348	-65.1		28	14.3
60	26	19,290	-63.8		29	12.3
50	26	20,410	-63.4		29	10.2
40	22	21,799	-61.0		29	8.9
30	19	23,583	-58.7		28	10.2
25	18	24,736	-56.9		27	11.4
20	15	26,169	-53.3		26	15.2
15	13	28,046	-49.7		25	18.2
10	9	30,688	-47.2			
7						

YAKUTAT, AK
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	12	2.5	1.6	09	1.8
1000	28	121	3.3	1.4	12	3.0
950	28	521	1.4	-.2	13	6.0
900	28	955	-1.1	-2.6	14	6.1
850	28	[illegible]	-3.3	-6.4	15	5.6
800	28	1,887	-5.6	-11.[illegible]	17	5.2
750	28	2,391	-7.8	-15.8	20	5.4
700	28	2,925	-10.3	-21.2	22	7.1
650	28	3,493	-13.3	-24.3	23	8.4
600	28	4,099	-16.9	-26.9	23	9.6
550	28	4,747	-21.0	-29.5	23	11.6
500	28	5,444	-25.6	-33.5	24	12.1
450	28	6,200	-30.9	-38.5	24	13.1
400	28	7,025	-37.[illegible]	-42.5	24	14.7
350	27	7,938	-43.7	-41.8	25	18.1
300	27	8,955	-50.9		25	20.7
250	27	10,1[illegible]3	-57.7		25	19.0
200	27	11,526	-58.1		25	15.3
175	27	12,47[illegible]	-56.5		25	12.8
150	26	13,344	-54.7		25	13.2
125	26	14,514	-54.0		25	10.2
100	17	15,917	-55.8		25	8.3
80	17	17,328	-56.1		27	6.1
70	17	18,175	-57.3		28	4.5
60	[illegible]	19,158	-59.[illegible]		29	4.2
50	15	20,301	-59.7		31	4.5
40	15	21,693	-60.6		31	5.3
30	13	23,497	-61.4		33	8.2
25	11	24,679	-60.6		33	9.7
20	11	26,063	-61.9		34	11.0
15	[illegible]	27,818	-62.[illegible]			
10						
7						

• YAP, CAROLINE IS.
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	14	27.1	23.5	09	4.1
1000	31	91	26.0	22.4	08	5.7
950	31	542	22.6	19.6	08	9.7
900	31	1,012	19.5	16.1	08	10.1
850	31	1,504	17.5	9.3	08	9.6
800	31	2,0[illegible]	16.1	3.8	08	8.7
750	31	2,568	13.8	-1.0	09	9.0
700	31	3,146	10.9	-6.0	09	8.4
650	31	3,761	7.7	-11.1	10	9.4
600	31	4,416	3.9	-12.5	10	9.6
550	31	5,118	-.1	-17.1	10	9.4
500	31	5,875	-4.4	-20.3	10	10.4
450	31	6,697	-9.2	-25.4	10	10.5
400	31	7,599	-15.0	-29.3	10	9.6
350	31	8,599	-21.6	-36.1	10	9.2
300	31	9,713	-30.0	-43.8	10	9.0
250	31	10,984	-40.4	-50.[illegible]	12	8.8
200	31	12,464	-52.9		13	11.1
175	31	13,312	-59.9		13	12.5
150	31	14,256	-68.0		13	15.5
125	30	15,332	-75.9		[illegible]	18.6
100	30	16,598	-82.4		11	15.7
80	30	17,842	-81.9		10	8.1
70	30	18,596	-78.4		09	3.8
60	30	19,484	-74.3		09	3.0
50	28	20,570	-67.8		09	5.9
40	28	21,929	-63.3		09	13.5
30	27	23,713	-59.0		09	20.9
25	26	24,866	-55.4		09	22.6
20	24	26,311	-50.8		09	23.3
15	24	28,202	-47.4		09	21.2
10	20	30,899	-43.2		10	5.9
7	6	33,347	-37.5			

YUCCA FLAT, NV
883 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,198	-2.1	-5.9	30	.9
1000						
950						
900						
850	31	1,506	3.0	-8.4	01	2.5
800	31	1,996	1.5	-10.6	04	2.3
750	31	2,514	-1.1	-13.6	05	.9
700	31	3,061	-3.8	-17.8	34	1.0
650	31	3,643	-6.9	-21.1	31	1.7
600	31	4,263	-10.7	-25.3	30	3.4
550	31	4,927	-15.0	-29.4	30	4.8
500	31	5,640	-20.4	-34.4	30	5.4
450	31	6,411	-25.9	-39.8	29	6.2
400	31	7,253	-32.4	-44.1	28	7.4
350	31	8,183	-39.7	-47.7	28	9.2
300	30	9,217	-47.2		28	11.3
250	30	10,404	-54.3		27	13.7
200	30	11,818	-58.6		27	18.4
175	30	12,656	-58.8		27	20.2
150	30	13,627	-58.2		27	20.5
125	30	14,771	-60.0		28	19.5
100	30	16,156	-62.6		28	16.6
80	30	17,526	-64.4		28	12.0
70	28	18,344	-64.0		29	11.5
60	27	19,292	-63.8		30	10.5
50	25	20,411	-63.0		31	9.8
40	25	21,790	-61.8		32	8.0
30	19	23,583	-60.1		30	7.8
25	17	24,727	-59.0		28	9.3
20	15	26,152	-55.5		26	13.6
15	11	28,017	-53.5			
10						
7						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Sun's zenith distance

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°

ALBUQUERQUE, NM

Air mass

Date	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
2----	----	----	----	1.43	----	1.42	1.26	1.14	1.02
4----	(1.15)	1.23	1.32	----	----	----	----	----	----
6----	----	----	----	----	----	1.36	1.27	1.14	1.05
7----	1.07	[illegible]	1.24	(1.36)	1.41	(1.39)	1.23	1.11	1.00
9----	----	----	----	----	1.43	1.38	1.27	1.11	1.04
10----	1.15	1.24	[illegible]	1.45	1.49	1.47	1.33	1.20	1.09
11----	1.12	1.21	1.31	----	1.45	1.42	1.24	1.13	(1.04)
13----	1.02	(1.06)	----	(1.39)	1.45	1.43	[illegible]	1.12	1.04
14----	----	----	----	1.38	1.41	1.38	1.21	1.09	1.00
15----	1.10	1.18	1.28	1.40	1.44	1.42	1.28	1.17	1.09
16----	1.08	1.16	1.29	1.43	1.44	1.40	1.25	1.13	1.00
17----	1.07	1.16	1.27	1.41	1.44	1.37	1.22	1.10	1.02
18----	1.05	1.16	1.27	1.40	1.41	1.41	1.21	1.10	.94
24----	----	----	----	----	----	----	----	1.09	.98
25----	(.98)	(1.09)	(1.22)	----	----	----	----	----	----
26----	[illegible]	1.15	1.25	1.39	----	1.39	----	----	----
27----	1.00	1.12	1.22	1.35	1.40	1.36	1.24	1.13	1.01
28----	1.09	1.19	1.29	1.39	1.44	1.41	1.26	----	----
30----	----	----	1.27	1.42	1.47	1.38	1.22	1.11	1.00
31----	1.02	1.13	1.22	1.39	1.44	1.40	1.26	1.14	1.05
Averages	1.07	1.17	1.28	1.40	1.44	1.40	1.25	1.13	1.02

MADISON, WI

Air mass

Date	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	--	S .96	[illegible]	----	----	----	----	----	----
[illegible]	----	[illegible]	[illegible]	----	----	----	----	----	----
[illegible]	[illegible]	S1.07	S1.20	----	S1.26	----	S1.17	S .99	S .83
[illegible]	[illegible]	S1.03	S1.18	----	S1.26	----	----	----	----
[illegible]	----	[illegible]	----	----	----	----	S1.06	S .92	S .79
[illegible]	M .80	M .93	M1.11	----	M1.24	----	S1.17	S1.08	S1.00
[illegible]	S .91	S1.01	S1.13	----	M1.27	----	S1.10	S .98	S .90
[illegible]	S .88	S .99	S1.16	----	S1.26	----	S1.20	S1.08	S1.01
[illegible]	S .98	S1.12	S1.23	----	----	----	----	----	----
[illegible]	S .62	S .75	----	----	----	----	S .95	S .81	S .70
Averages	.87	.99	1.11	----	1.26	----	1.11	1.13	.87

OMAHA, NE

Air mass

Date	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78

NO DATA RECEIVED

Sun's zenith distance

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°

BLUE HILL OBSERVATORY, MA

Air mass

Date	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
2-----	.84	.93	1.02	----	1.09	----	1.04	.94	.87
7-----	.64	.74	.85	----	1.04	----	.98	.88	.82
13----	.80	.88	.98	----	1.08	----	.98	.86	.78
19----	----	----	----	----	(1.02)	----	(.92)	(.80)	(.72)
22----	.79	.89	1.00	----	----	----	.96	.87	.79
23----	----	----	----	----	1.11	----	.98	.87	.75
26----	(.62)	.96	(.91)	----	1.04	----	----	----	----
30----	.62	.84	.92	----	1.06	----	.86	.76	.67
31----	.68	.75	.84	1.02	1.02	1.02	.90	.76	.66
Averages	.70	.86	.93	1.02	1.06	1.02	.95	.84	.76

MAUNA LOA OBSERVATORY, HA

Air mass

Date	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36

NO DATA RECEIVED

TUCSON, AZ

Air mass

Date	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	----	----	----	----	1.42	1.39	1.26	1.14	----
2-----	.97	1.08	1.26	----	1.41	1.36	1.21	1.10	1.06
3-----	----	----	1.22	1.34	1.41	----	----	----	----
4-----	.94	----	----	----	----	----	----	----	----
5-----	----	----	1.16	1.31	1.40	1.35	1.22	1.10	----
6-----	----	1.08	1.23	1.39	----	1.40	----	----	----
7----	.98	1.10	1.24	1.39	1.44	1.38	1.21	1.07	----
10----	----	----	----	----	1.43	1.39	----	----	1.07
11----	.99	1.10	1.23	1.36	1.40	1.37	1.26	1.12	1.01
12----	.92	1.02	1.17	1.33	1.39	----	1.15	1.00	.87
13----	.88	.98	1.14	1.34	1.36	1.33	1.15	1.03	.94
14----	.83	.93	1.10	1.32	1.41	1.36	1.12	1.00	.95
15----	.96	1.08	1.21	1.37	1.43	1.36	1.20	1.12	1.01
16----	1.06	1.15	1.27	1.40	1.44	1.31	1.22	1.10	1.02
19----	----	1.16	1.24	1.36	----	----	----	----	----
23----	----	----	----	----	1.35	----	----	----	----
24----	----	----	----	1.29	1.37	----	1.11	.97	.88
27----	----	----	----	1.31	1.33	1.30	1.07	.87	----
28----	----	----	----	----	1.35	----	----	----	----
31----	----	1.06	1.19	1.37	1.45	1.35	1.19	1.07	.98
Averages	.95	1.07	1.20	1.35	1.40	1.36	1.18	1.05	.97

NOTE

SOLAR RADIATION TOTALS HAVE BEEN DISCONTINUED IN THIS PUBLICATION.
THE NEW PUBLISHED SOURCE OF THESE DATA WILL BE ANNOUNCED LATER.

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

JANUARY 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-19	-26	-51	12	25	-12	[illegible]	-50	-49	-18	[illegible]	-30	[illegible]	-59	-51	-54	-27	-40	-83	-84	-24	-22	-53	-34	-45	-15	-19	[illegible]	-36	2	- 7	-31

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) in langleys

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys.																NO DATA RECEIVED																

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code xsww defined in the August 1962 WMO circular entitled 'PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA'.

Units: Milli atm-cms

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O3
														NO DATA RECEIVED																		

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation [illegible] individual Climatological Data for times of observations).

- + And also on an earlier date or dates.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- + And also on an earlier date or dates.
- U Indicates Urban site.
- R Indicates Rural site.
- Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

- U Indicates Urban site.
- R Indicates Rural site.

STORM SUMMARY:

- ° Includes crop damage.
- C Crop damage.
- * No occurrence of storms or unusual weather phenomena reported.
- @ Includes heavy sleet storm.
- # Freezing drizzle and freezing rain, commonly known as glaze.
- Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
- ‡ No Storm Data Report received for this State.
- Report Incomplete.
- † Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

- 1 Flooding continued at the end of the month.
- NA Not available.

FLOOD STAGE DATA:

- # Highest Stage Observed
- 1/ Continued at end of month
- ___ Highest Stage of Record
- E Estimated
- P Provisional (Flood Stage)
- U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40 . Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

- * Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
- + Observations for these stations are scheduled at 0000 G.C.T.
- † Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeterminable
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\Omega\Omega\Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

DESCRIPTION OF CHARTS

CHART I. A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1941-70) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1941-70) FOR MONTH. Chart I-A is reproduced from monthly normals maps prepared at the National Climatic Center. Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin," a publication of Environmental Data Service.

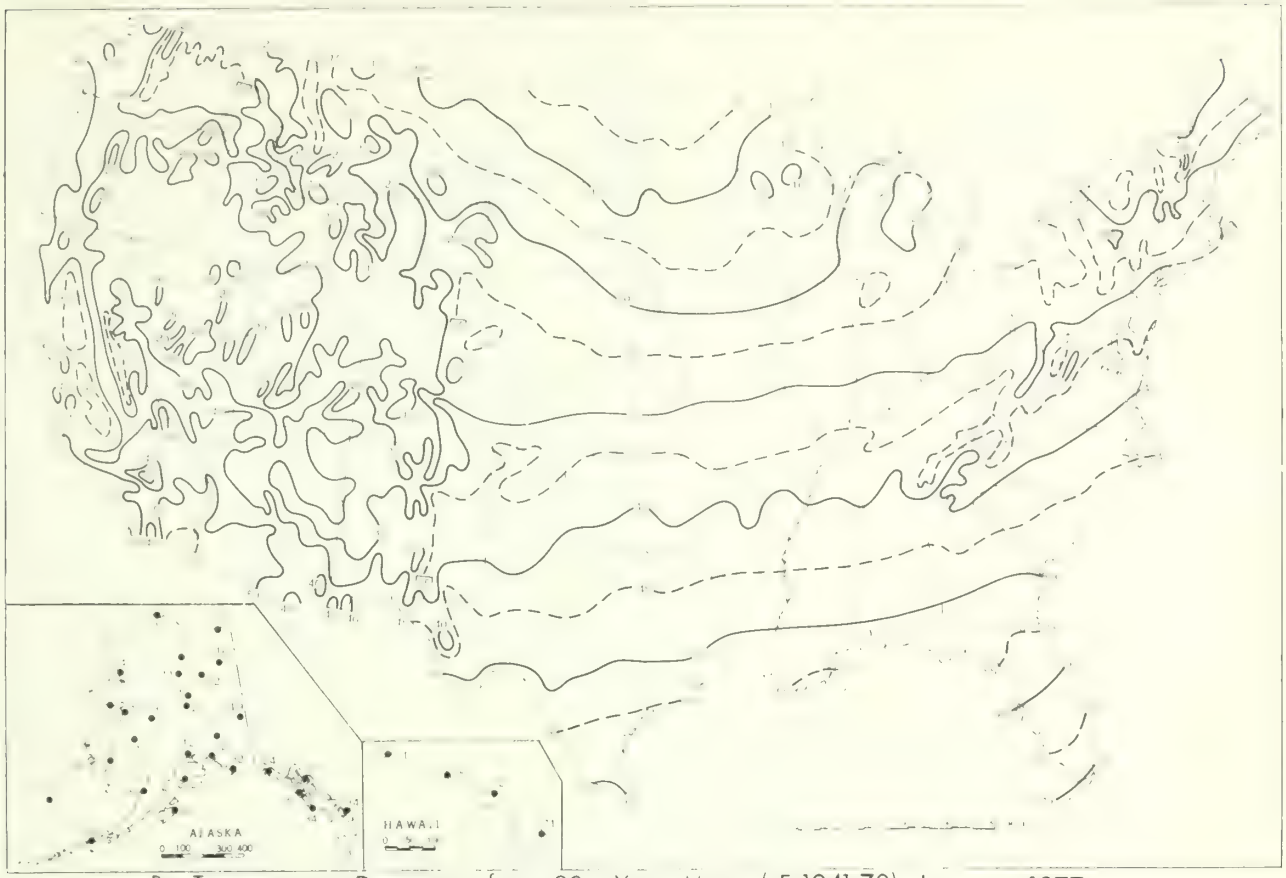
CHART II. A. TOTAL PRECIPITATION. Chart II. A. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART II. B. PERCENTAGE OF NORMAL PRECIPITATION. Chart II. B. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

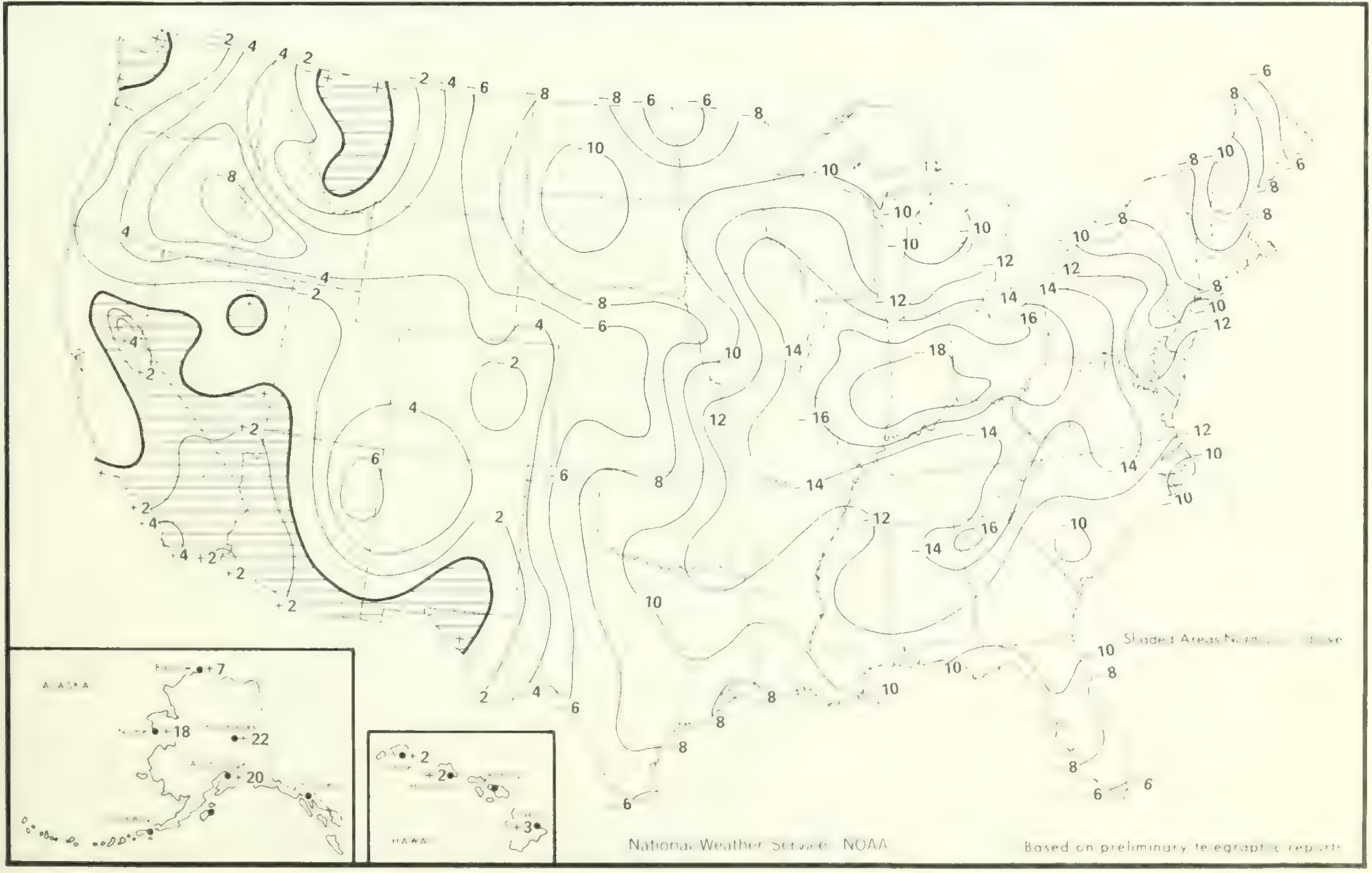
CHART III. TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IV. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m., e.s.t., positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by X's. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Squares indicate position of stationary center for period shown beside it.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), January



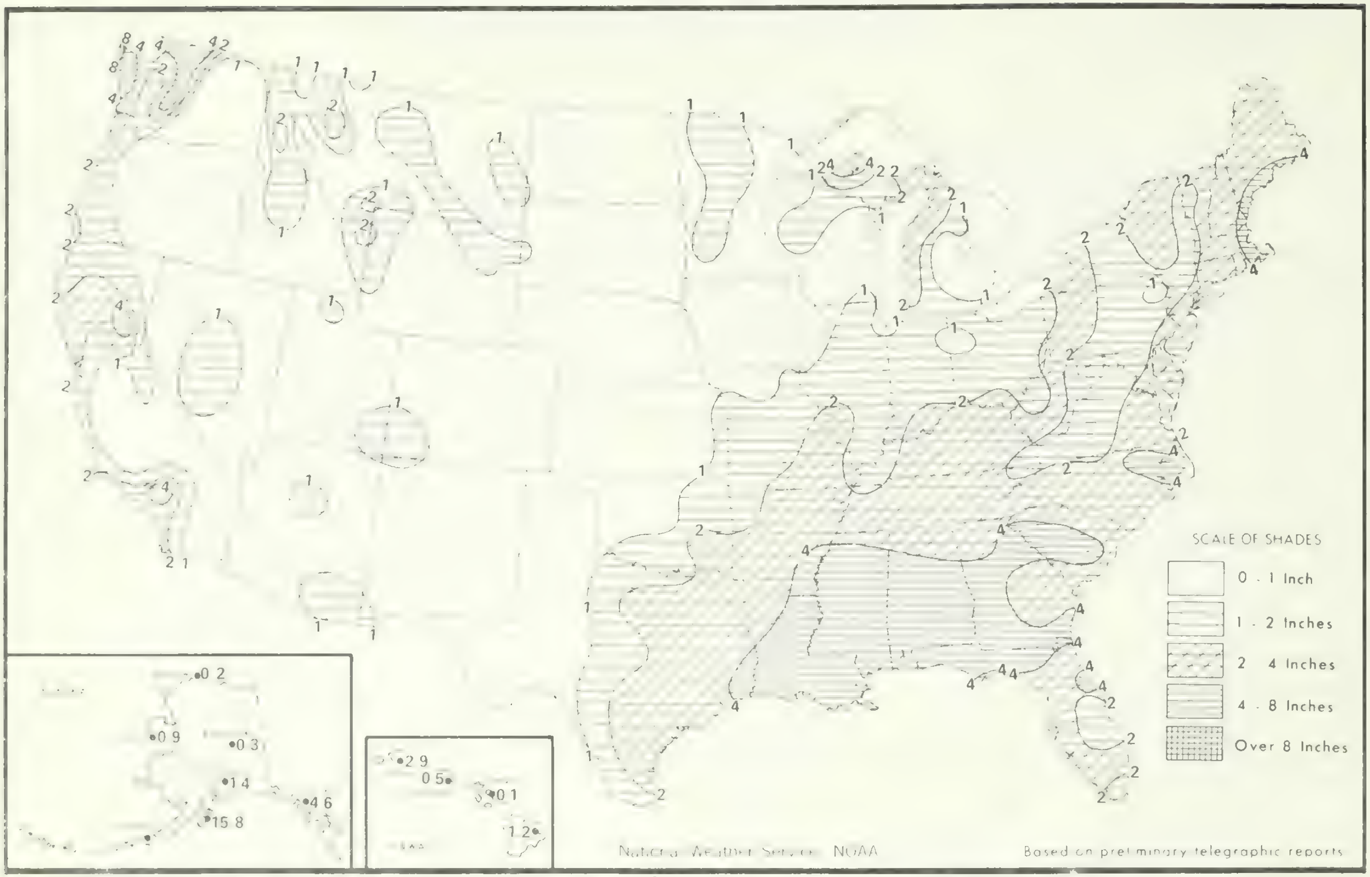
B. Temperature Departure from 30 - Year Mean (F 1941-70), January 1977



National Weather Service, NOAA

Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), January 1977



B. Percentage of Normal Precipitation, January 1977

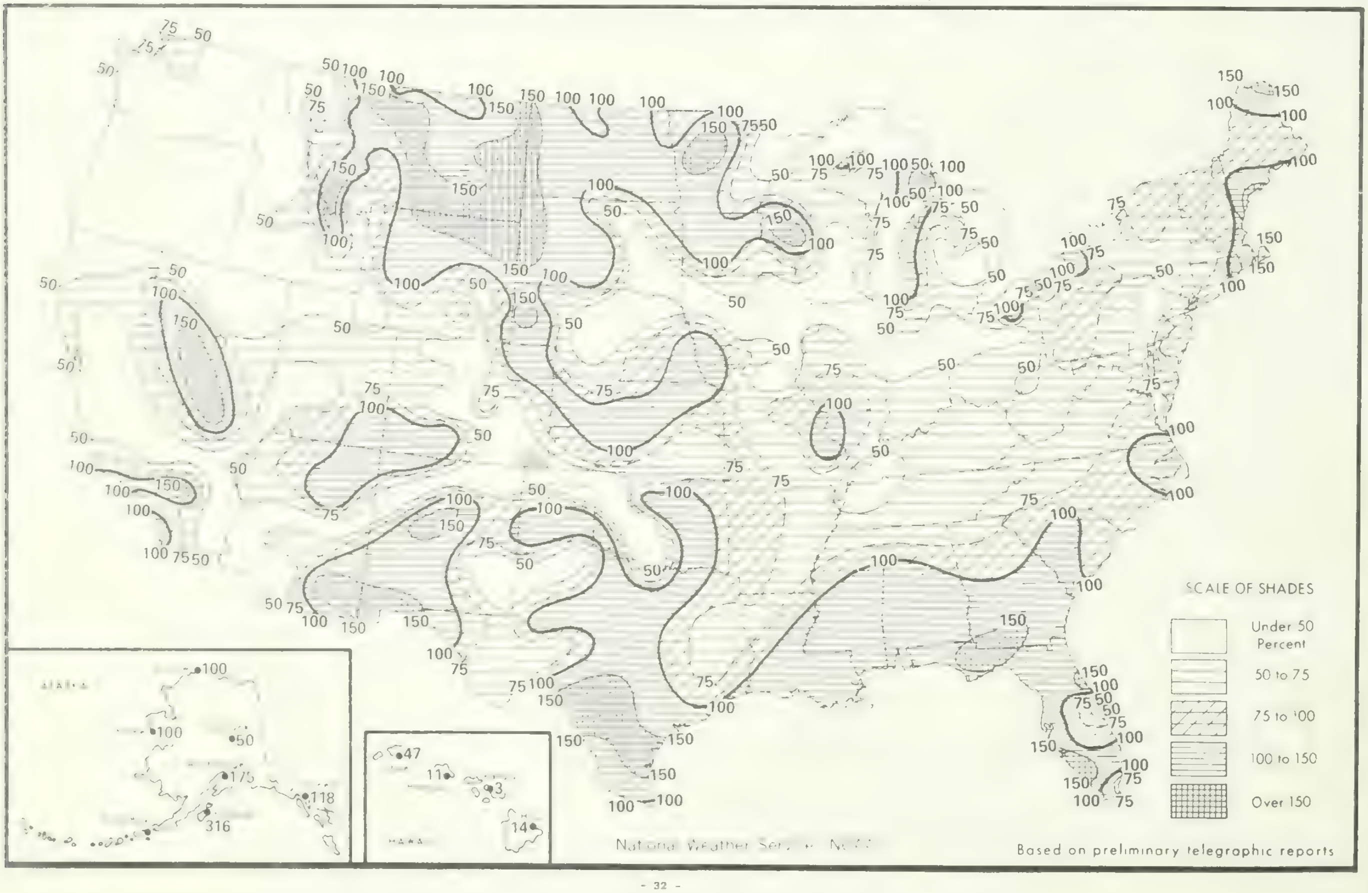
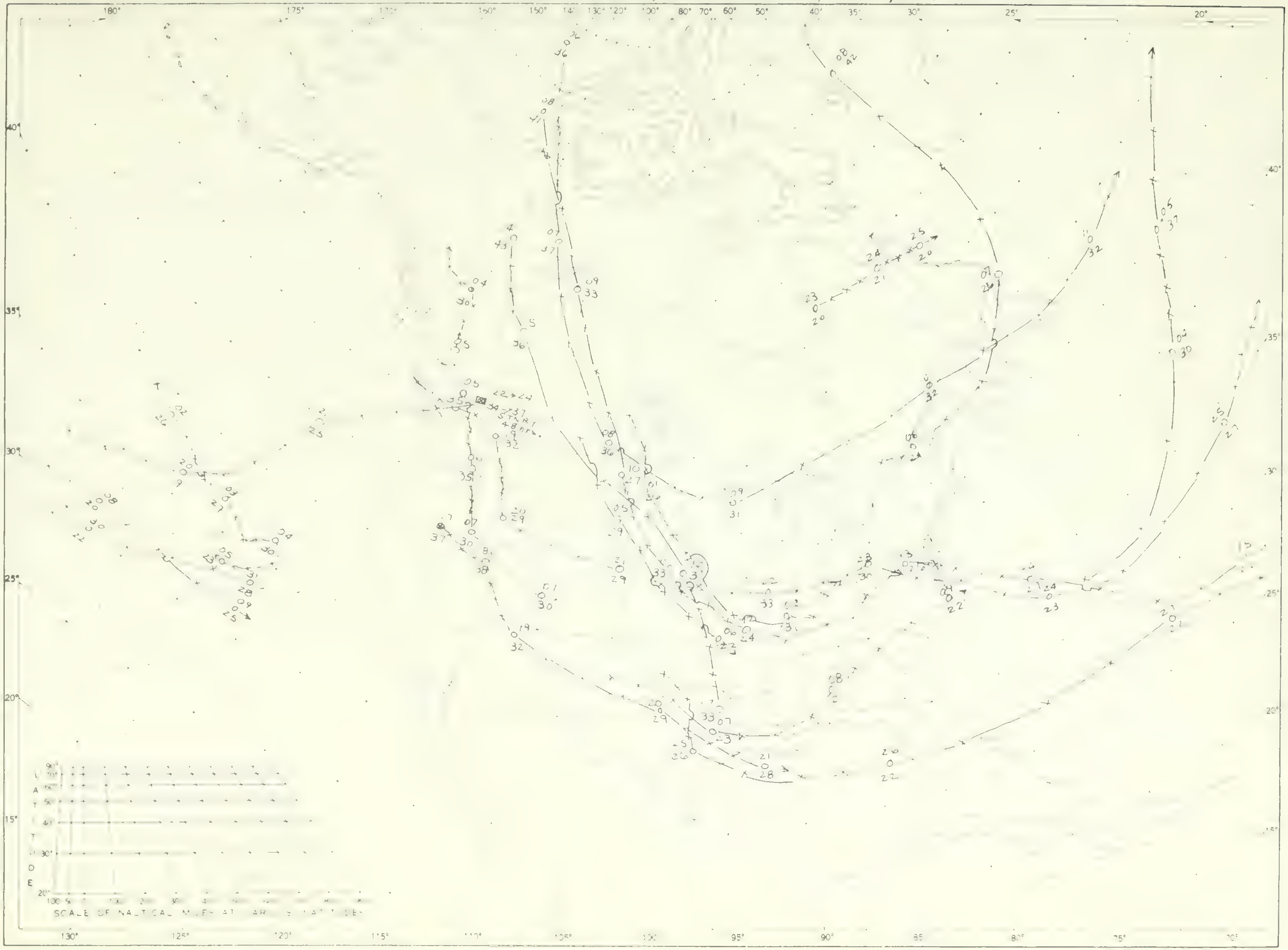
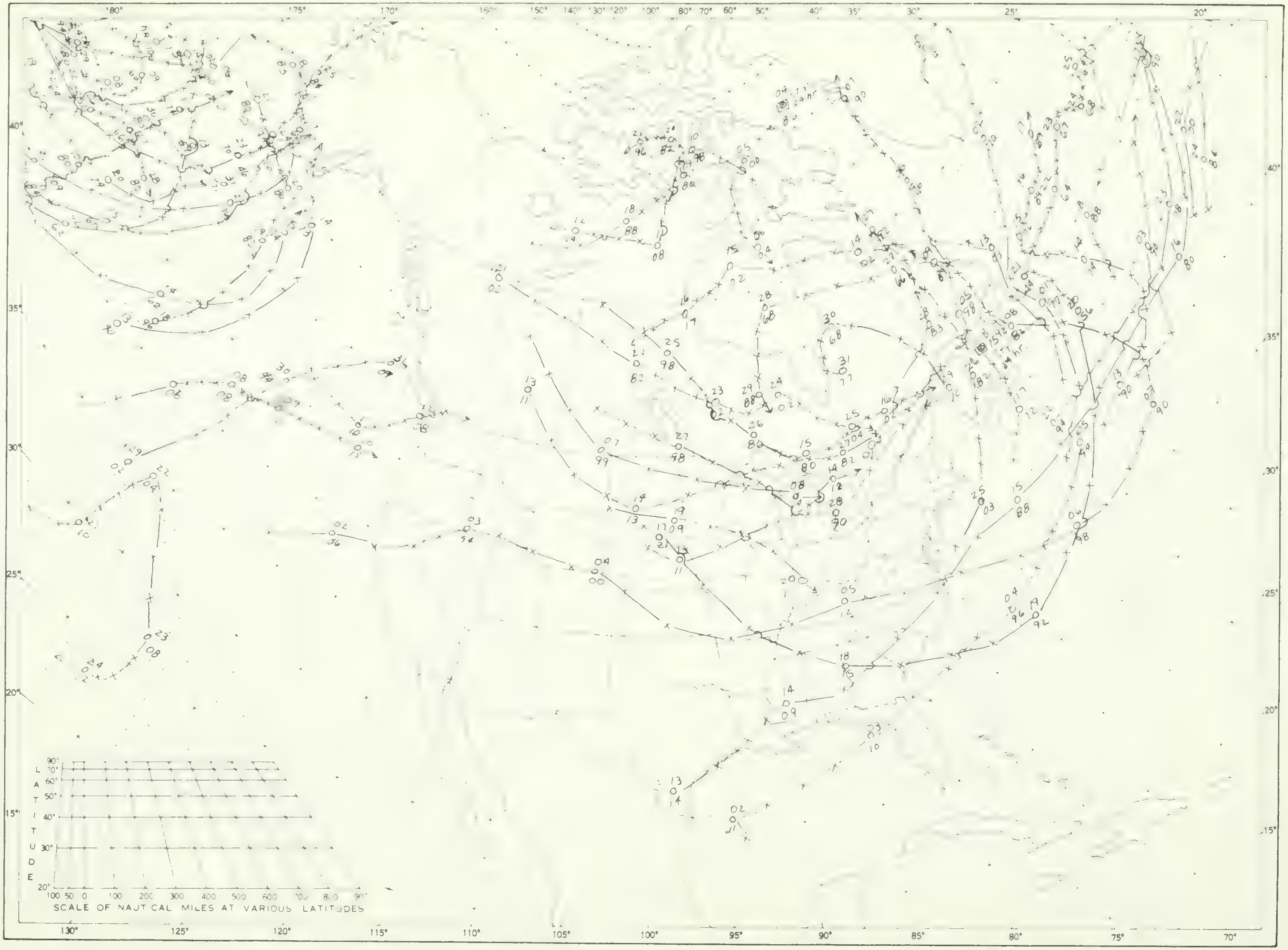


Chart III Tracks of Centers of Anticyclones at Sea Level, January 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV Tracks of Centers of Cyclones at Sea Level, January 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. **X**'s indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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FEBRUARY 1977 VOLUME 28 NUMBER 2

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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Daniel B Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly by the National Climatic Center, Federal Building, Asheville, N. C. 28801
Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

FEBRUARY 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: The northern Great Plains and portions of the Corn Belt, parts of Texas, New England and scattered western mountain locations were the only areas to receive above normal moisture for the month. Many areas of the western States had less than 25% their normal moisture. Most of the moisture in the Upper Great Plains and the Pacific Northwest fell during the last week of the month.

The cold temperatures of winter finally moderated during February, averaging well above normal west of the Missouri River and only slightly below normal in the East. Parts of Montana averaged 12 to 16° above normal over the month.

The month began with bitter cold temperatures persisting across the eastern half of the country. The Ohio Valley and the area south of the Great Lakes had the largest departures, averaging 12 to 15° below normal. Much of the western and northern Plains were near normal. Little or no moisture fell over the parched western States.

Snow and high winds buffeted the Buffalo, NY area during the week. The southern and central Plains experienced a period of warming but cooled rapidly again at the week's end. Record low temperatures were set at numerous locations the morning of the 6th: Columbus, OH, -11°; Madison, WI, -19°; Roanoke, VA, 8°; and Birmingham, AL; 17°.

The second week saw unusually warm temperatures prevail over the western two-thirds of the Nation. Temperatures in the Plains averaged 18 to 21° above normal. Most of the precipitation during the week was associated with a low pressure system that moved from Texas northeastward through New England spreading rain in its path. The rain was heavy in east Texas but rather light as the low moved northeastward. Some rain fell in the Pacific Northwest and northern California but not nearly enough to relieve the drought.

The unseasonably mild temperatures continued to persist from the Mississippi to the West Coast during the week of the 14th-20th. Temperatures in the intermountain Plateau region averaged 10 to 13° above normal, and most of Montana was 15 to 20° warmer than normal. On the other hand, Florida averaged 6 to 8° below normal and several frosty mornings were reported.

Precipitation was generally light across the Nation, but rain did start up again at the end of the week in Washington, Oregon, and northern California. The New England area received additional snow bringing depths up to 60 inches in northern Maine.

In the wettest week of the winter, February ended with at least some moisture over the entire country, with a few minor exceptions. Record breaking warmth also covered many parts of the Nation. The entire Nation east of the Rockies was at least 6° above normal except in the upper Great Lakes, New England, and Florida.

Moisture amounts across the Pacific Northwest totaled 2 to 4 inches along the coast and up to 1 inch further inland. Heavy rains also fell across the Southeast with over three inches in parts of Alabama and Mississippi.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	[illegible] 1 N	88	26	Valley Head	7	2+	Selma	6.21	Dauphin Island 2	1.42
Alaska	Annette WSO AP	60	3	Umiat	-65	3	Mac Leod Harbor	55.60	Gakona 1 N	T
Arizona	Ehrenberg 2 E	92	21	Hawley Lake	-15	26	Sunrise Mountain	1.39	30 Stations	.00
Arkansas	El Dorado FAA AP	88	25	Bentonville	3	1	Nashville Exp Station	5.43	Bentonville	1.04
California	Palm Springs	91	19	Fort Bidwell	-10	3	Gasquet Ranger Station	7.33	22 Stations	.00
Colorado	Lamar	76	21	Taylor Park	-33	26	Berthoud Pass	2.78	11 Station	.00
Connecticut	4 Stations	64	27	Bulls Bridge Dam	-13	9	Bulls Bridge Dam	3.99	Bridgeport WSO AP	1.74
Delaware	Lewes 1 SW	75	27	Georgetown 5 SW	6	7	Lewes 1 SW	1.94	2 Stations	1.09
Florida	La Belle	91	28	Smith Creek	17	1	Mayo	5.00	Fort Myers WSO AP	.15
Georgia	Ashburn 3 ENE	87	27	Blairsville Exp Station	3	3+	Douglasville	4.19	Dover	1.11
Hawaii	[illegible]	89	15	Mauna Loa Slope Obs.	30	21+	Puohokamoa 2 343	18.00	4 Stations	.00
Idaho	4 Stations	72	20	Island Park Dam	-24	27	Avery Ranger Station 2	2.30	3 Stations	T
Illinois	4 Stations	70	23	Mount Carroll	-24	7+	Centralia	3.66	Rantoul	.08
Indiana	English	75	23	Wheatfield 2 NNW	-21	6	Crawfordsville Power Plant	3.69	Ogden Dunes	.43
Iowa	3 Stations	71	21	Elkader 5 SSW	-26	6	Cresco 1 NE	1.16	Shenandoah	.03
Kansas	4 Stations	81	22	2 Stations	- 8	1	Pittsburg	2.15	11 Stations	.00
Kentucky	Pikeville	85	26	2 Stations	-10	7+	Russellville	3.11	Vanceburg	D .51
Louisiana	2 Stations	89	26	Plain Dealing	15	1	Melville	5.26	Lake Charles 2 N	1.02
Maine	3 Stations	47	13	Van Buren 2	-30	24	Patten 4 WSW	4.92	Ripogenus Dam	1.60
Maryland	2 Stations	75	27	Oakland 1 SE	-22	8	Pocomoke City	2.63	Frederick 3 E	.30
Massachusetts	Chester 2	56	11	Chester 2	-15	22	Chester 2	3.84	Nantucket FAA AP	1.41
Michigan	Jackson FAA AP	58	23	Watersmeet	-30	16	Pellston FAA AP	3.55	Gull Lake Biol Station	.53
Minnesota	Luverne	61	11	2 Stations	-36	6	Thorhult 1 S	2.67	Virginia	.14
Mississippi	Woodville 4 ESE	90	25	2 Stations	10	16+	Brooksville Exp Station	6.50	Greenville 8 SW	1.09
Missouri	Weldon Sprng Wldlfe AR	75	23	Farmington	-16	1	Alton	3.40	Chillicothe	.08
Montana	Fort Benton	71	20	West Yellowstone	-18	27	Swan Lake	D 2.18	5 Stations	.00
Nebraska	Beaver City	76	21	2 Stations	- 8	1	Springview	1.89	3 Stations	.00
Nevada	Lathrop Wells 16 SSE	88	17	Mountain City Ranger Sta	- 5	3	Mount Rose Bowl	2.00	18 Stations	.00
New Hampshire	Epping	50	12	Mount Washington	-24	2	Mount Washington	12.09	Monroe 5 NNE	D1.37
New Jersey	Chatsworth	74	23	Long Valley	- 5	9	Midland Park	4.33	Shiloh	.95
New Mexico	Jal	89	22	Eagle Nest	-22	28	Progresso	2.74	7 Stations	.00
New York	3 Stations	61	24	3 Stations	-24	17	Boonville 2 SSW	5.20	2 Stations	.54
North Carolina	3 Stations	85	27	Grandfather Mountain	- 5	7+	Coweeta Exp Station	3.20	Yanceyville 2 NNE	.57
North Dakota	2 Stations	57	21	Hannah 2 N	-27	6	Oakes 2 S	1.62	Ambrose 3 N	.00
Ohio	Gallipolis	72	26	2 Stations	-25	8+	Napoleon Water Works	3.18	Piketon AEC Pump Station	.19
Oklahoma	Hollis	85	22	Claremore 2 ENE	7	1	Broken Bow Dam	4.03	2 Stations	T
Oregon	Powers	80	19	Unity	- 2	2	Valsetz	12.91	Mc Dermitt 26 N	.00
Pennsylvania	2 Stations	72	23	3 Stations	-21	9+	Tobyhanna	3.37	Raymond	.51
Puerto Rico	2 Stations	91	27	Adjuntas Substation	48	2	Pico Del Este	5.84	4 Stations	.00
Rhode Island	2 Stations	52	28	Kingston	- 6	8	North Foster 1 E	3.23	Block Island WSO AP	2.19
South Carolina	Marion	85	26	Caesars Head	6	6	Hogback Mountain	2.88	2 Stations	.88
South Dakota	3 Stations	70	21	Britton	-20	6	Kadoka	3.14	4 Stations	T
Tennessee	2 Stations	84	27	Oneida	- 2	1	Neapolis Exp Station	4.46	Rogersville 1 NE	.51
Texas	2 Stations	99	26+	Gainesville	2	1	Naples 1 SW	6.77	10 Stations	.00
Utah	Zion National Park	76	20	4 Stations	-10	27+	Alta	6.94	2 Stations	.00
Vermont	Readsboro 1 SE	50	12	West Burke	-16	18+	Mount Mansfield	5.61	South Hero	1.45
Virginia	Danville-Bridge St	85	27	Burkes Garden	- 9	8	Newport News Press Bldg	3.47	Staunton Sewage Plant	.23
Virgin Islands	Frenchmans Bay	89	7	Cruz Bay	63	27	Fountain	1.88	Castle Nugent	.31
Washington	2 Stations	72	20	Mazama	3	1	Spruce	14.32	Coulee Dam 1 SW	.14
West Virginia	2 Stations	83	27	2 Stations	-23	8+	Snowshoe	D 3.70	Wardensville R M Farm	.13
Wisconsin	Dodge	57	11	Minong 5 WSW	-32	6	Kewaunee 5 S	2.92	Medford	.12
Wyoming	Carpenter 3 E	67	21	Lake Yellowstone	-23	27	Midwest 1 SW	2.60	3 Stations	.00

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max 32.2 °C or above	Temperature: No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days: Partly cloudy 4-7	No of days: Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	997.3	1020.2	14.2	-0.1	7.1	-1.2	26.7	26+	-8.9	1	0	17	-1.7	58	99	-35	55	5	3	T	0	1.1	27	12.5	W	23	16	5	7	4.1	74
HUNTSVILLE	190	996.3	1019.9	12.8	-1.3	5.8	-0.7	25.0	26+	-10.6	1	0	18	-2.8	58	86	-45	46	4	2	T	0	1.2	27	13.4	13	23	16	5	7	3.5	
MOBILE	64	1012.5	1020.7	17.7	4.7	11.2	-1.0	26.1	26	-3.3	1	0	8	1.7	58	47	-74	19	5	3	0	0	0.4	26	13.4	19	23	11	9	8	4.8	
MONTGOMERY	59	1013.2	1020.7	15.1	1.4	8.2	-2.1	26.1	26	-5.6	1	0	15	-0.6	60	81	-28	56	5	3	0	T	1.2	29	14.8	W	27	16	4	8	4.0	70
ALASKA												B																				
ANCHORAGE	35	997.2	997.2	3.6	-2.8	0.4	8.3	8.9	19	-8.3	17	0	20	-4.4	71	13	-8	6	4	0	53	51	0.6	1	9.4	16	5+	3	4	21	8.5	36
ANNETTE	34	1006.4	1010.6	9.2	3.8	6.5	3.9	15.6	3	0.0	26+	0	2	2.8	79	419	184	88	25	0	30	T	5.2	14	21.5	16	7+	1	5	22	8.9	
BARROW	9	1015.2	1015.8	-24.5	-29.3	-26.9	1.2	-15.0	21+	-41.1	2	0	28	-30.0	76	4	-1	2	5	0	48	229	3.9	6	13.9	5	19	14	1	13	5.3	
BARTER ISLAND	12	1011.5	1013.6	-24.1	-30.6	-27.3	1.3	-12.2	21	-44.4	3	0	28	-30.0	73	4	-5	2	5	0	38	203	2.1	9	20.6	8	21+	8	2	18	6.9	
BETHEL	38	987.1	992.9	-3.4	-11.4	-7.4	5.8	5.6	15	-21.1	1	0	28	-10.0	81	8	-11	2	9	0	168	229	4.2	4	23.2	3	1	0	5	23	9.0	
BETTLES	196	979.7	1005.0	-10.8	-19.4	-15.1	7.0	4.4	21	-37.8	1	0	28	-18.3	77	12	-7	5	8	0	221	660	2.4	36								
BIG DELTA	386			-3.4	-10.8	-7.1	8.8	6.7	20	-25.0	3	0	28			1	-6	1	3		46	152										
COLD BAY	29	982.1	985.5	3.3	-1.7	0.8	2.9	5.1	2	-6.7	23+	0	22	-1.7	83	60	-6	21	20	0	191	102	2.5	16	24.6	24	26	0	6	22	8.8	
FAIRBANKS	133	983.4	1001.2	-7.6	-18.4	-13.0	6.2	5.0	21	-25.6	12	0	28	-16.1	77	21	7	13	6	0	483	737	0.8	1	6.3	4	21+	3	11	14	7.3	
GULKANA	479			-2.1	-10.8	-6.4	9.2	4.4	1	-17.8	17+	0	28			10	-2	10	3		25	51										
HOMER	19			4.7	-0.7	2.0		7.2	1	-8.9	28	0	15			76	37	23	18	0	T	T			13.0	2	18+	1	5	22	8.6	
JUNEAU	4	1006.1	1006.7	6.6	2.4	4.5	6.7	12.8	19	-3.3	11	0	2	2.2	88	116	28	21	26	0	T	T	4.9	12	16.1	13	19	0	1	27	9.7	14
KING SALMON	15	988.8	990.7	2.7	-4.8	-1.1	7.5	6.7	1	-20.0	28	0	23	-3.9	76	34	9	17	11	0	302	279	2.4	9	13.4	9	1	0	3	25	8.9	
KODIAK	4	966.2	992.5	4.3	0.2	2.3	2.6	6.1	11+	-6.7	28	0	14	0.6	87	316	192	103	26	0	310	51	1.9	10	17.0	7	13	2	3	23	8.9	
KOTZEBUE	3	1002.7	1003.2	-11.7	-19.2	-15.4	4.8	1.1	20	-36.1	12	0	28	-17.8	80	7	-1	3	6	0	147	457	2.3	5	14.8	9	19	8	2	18	6.5	
MC GRATH	105	985.4	998.5	-8.8	-19.5	-14.1	3.8	2.8	20	-28.3	28	0	28	-16.7	79	11	-12	9	6	0	211	508	0.4	35	7.6	3	1	0	10	18	8.4	
NOME	4	997.3	998.1	-4.4	-12.3	-8.3	6.6	2.8	19	-22.2	11	0	28	-13.3	66	12	-9	5	10	0	140	203	4.4	5	18.3	5	1	7	3	18	7.1	27
ST. PAUL ISLAND	7			-0.3	-4.8	-2.6	2.4	2.2	28+	-10.6	17	0	25			23	-12	5	17	0	180	203			30.4	18	25+	0	3	25	9.0	
TALKEETNA	105			1.9	-6.6	-2.3	6.9	6.7	21	-19.4	28	0	27			22	-24	16	6	0	84	457			7.6	2	13					
UNALAKLEET	5			-4.8	-11.4	-8.1		0.5	20	-25.0	1	0	28			3		1	5		30	76			17.0	12	4	3	5	20	8.0	
VALDEZ	7			2.4	-2.5	0.0	5.3	7.3	20	-8.3	27	0	20			202	67		17		665				9.4	8	12	1	2	25	9.2	
YAKUTAT	9	1001.4	1002.4	6.0	0.5	3.3	5.5	11.1	20	-5.0	11	0	12	1.7	89	487	251	69	25	0	450	229	2.9	9	17.4	11	18	0	4	24	9.1	
ARIZONA																																
FLAGSTAFF	2135	788.4	1020.2	10.5	-8.1	1.2	2.1	21.1	16	-21.7	26	0	27	-10.0	49	21	-16	16	4	0	284	229	0.7	3	12.1	SW	22	10	8	10	5.0	86
PHOENIX	339	978.0	1017.3	24.8	8.1	16.5	3.7	31.1	19	1.1	26	0	0	-3.3	30	2	-14	2	1	0	0	0	0.4	11	21.0Y	W	22	16	9	3	3.1	94
TUCSON	788	927.9	1016.4	21.7	5.9	13.8	1.9	27.2	21+	-2.2	27	0	1	-3.3	35	1	-17	1	2	0	0	0	0.7	17	15.2	SW	24	24	3	3	2.2	95
WINSLOW	1492	854.4	1022.6	12.7	-7.6	2.6	-1.4	24.4	21	-15.0	27+	0	28	-10.0	48	18	8	18	2	0	203	203	1.3	24	17.9	22	22	7	15	6	4.8	
YUMA	59	1010.2	1017.4	25.6	8.0	16.8	1.6	31.1	21+	2.8	26	0	0	-3.3	29	T	-7	T	1	0	0	0	1.9	35	13.4	NW	24	21	4	3	2.3	92
ARKANSAS																																
FORT SMITH	136	1002.0	1019.2	13.8	-1.3	6.3	0.0	22.8	21	-7.2	1	0	21	-1.7	61	37	-44	17	5	1	T	0	0.9	32	17.9	NW	23	13	8	7	4.3	74
LITTLE ROCK	78	1009.8	1019.5	15.2	1.3	8.3	2.2	28.3	25	-5.6	1	0	14			50	-62	24	4	1	0	0	1.1	26	10.3	SW	22	11	10	7	4.7	82
CALIFORNIA																																
BAKERSFIELD	145	1004.4	1022.2	20.4	7.2	13.8	2.5	29.4	19	1.7	4	0	0	5.6	62	2	-24	1	3	0	0	0	0.6	36	10.3	35	26	12	7	9	4.9	
BISHOP	1252	978.4		17.8	-2.2	7.8	2.5	25.0	17+	-7.8	3	0	25			6	-21	6	1		T	0			19.7Y		1	12	8	8	4.7	
BLUE CANYON	1609	842.2	1020.4	11.9	2.4	7.2	4.2	20.0	13	-6.1	28	0	12	-6.1	48	113	-126	71	7		475	279			13.0	20	21					
EUREKA J	13			14.3	6.2	10.3	1.2	18.9	7	2.8	25+	0	0			57	-74	19	9		0	0			18.8	SW	21	3	6	19	7.9	38
FRESNO	100	1010.5	1022.3	19.3	4.6	11.9	2.0	26.1	19+	-0.6	3	0	1	5.0	69	2	-41	2	2	0	0	0	0.7	35	13.0	31	26	9	10	9	5.4	82
LONG BEACH	8	1018.0	1019.3	22.6	7.8	15.2	2.2	31.1	15	2.8	26+	0	0	7.2	67	9	-46	6	2	1	0	0	1.1	28	10.3	29	22	13	6	9	4.4	
LOS ANGELES	30	1015.6	1019.1	21.5	10.3	15.9	2.8	31.1	12	6.7	27	0	0	8.9	72	7	-52	5	2	1	0	0	1.1	27	15.6Y	W	24	14	6	8	4.5	
LOS ANGELES	82			23.5	11.0	17.3	2.8	31.1	16	6.1	25	0	0			4	-66	3	2		0	0			11.2	NW	22	17	7	4	3.5	85
MT SHASTA R	1077	896.4	1022.7	12.1	-2.1	5.1	1.8	21.1	15	-6.7	24+	0	26	-3.3	62	47	-96	22	6		91	76	0.5	1								
OAKLAND	2	1022.7	1022.9	16.5	8.2	12.3	1.3	22.8	16+	5.6	2	0	0	7.8	78	21	-51	10	5	0	0	0	0.9	28	10.3	31	23	4	16	8	6.2	
RED BLUFF	104	1009.5	1022.3	19.9	4.8	12.4	2.4	29.4	14	-1.1	3	0	2	3.9	64	34	-46	16	4	0	0	0	1.6	34	13.4	W	21	3	11	14	6.9	80
SACRAMENTO	5	1021.3	1022.3	17.8	4.9	11.3	1.4	24.4	15	0.6	3	0	0	5.0	71	30	-38	18	4	0	0	0	0.4	21	11.2	NW	28	9	10	9	5.6	77
SANDBERG R	1377	866.2	1020.2	13.4	5.2	9.3	3.7	21.1	16	-2.2	25	0	5	-6.7	38	4	-59	2	4		0	0	3.7	3	16.5	35	25					
SAN DIEGO	4	1018.3	1019.2	21.8	11.1	16.5	2.8	29.4	12	7.2	25	0	0	8.9	66	2	-36	2	1	0	0	0	1.3	31	8.9	NW	24+	15	8	5	3.9	86
SAN FRANCISCO	2	1022.0	1022.6	16.3	7.2	11.8	1.1	23.3	14	4.4	25	0	0	6.7	75	26	-51	13	5	0	0	0	1.8	29	11.2	27	21	3	13	12	6.6	
SAN FRANCISCO	16			17.2	9.6	13.4	1.5	25.0	14	6.7	2	0	0			23	-53	10	5													
SANTA MARIA	72			21.2	4.0	12.6	1.5	27.8	15+	-0.6	2	0	3			2	-59	2	1		0	0						13	8	7	4.0	
STOCKTON	7	1021.7	1022.6	18.6	4.8	11.7	2.2	25.6	18	-1.1	4	0	2	6.1	75	20	-34	9	4	1	0	0	0.6	28	10.7	30	23	4	14	10	6.4	
COLORADO																																
ALAMOSA	2297	771.1		6.1	-15.6	-4.7	0.4	13.9	21+	-26.7	26	0	28			7	0	5	3		145	102	0.3	30				10	9	9	5.2	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days sunrise to sunset				
												No. of days							No. of days		Snow, ice pellets				Fastest mile (1.6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
COLORADO																																
COLORADO SPRINGS	1873	810.4	1019.2	9.1	-5.8	1.7	2.1	17.8	21	-14.4	26	0	27	-12.8	39	5	-4	4	3	0	64	51	2.8	1	18.3	30	23	9	7	12	5.5	
DENVER	161	836.1	1016.9	11.0	-4.4	3.3	2.9	20.0	21	-8.9	26	0	25	-11.1	41	7	-10	5	4	0	79	51	1.0	27	15.2	NW	23+	9	7	12	6.0	79
GRAND JUNCTION	1476	855.1	1021.6	11.3	-5.7	2.8	1.9	17.2	20	-11.1	26	0	27	-10.6	41	2	-14	2	1	0	T	T	0.5	6	13.9	N	22	9	8	11	5.0	91
PUEBLO	1428	855.7	1017.9	13.8	-6.9	3.4	1.9	23.9	21	-14.4	26	0	26	-10.0	44	8	0	8	1	0	91	102	1.4	33	21.0	NW	23	11	7	10	5.3	86
CONNECTICUT																																
BRIDGEPORT	2	1012.5	1013.2	3.4	-4.3	-0.4	0.2	11.7	26+	-13.3	9	0	22	-5.6	69	44	-25	24	10	0	147	127	3.1	29	14.8	27	25	9	8	11	5.9	
HARTFORD	52	1005.8	1012.4	2.1	-7.0	-2.4	0.4	10.0	25	-17.2	9	0	25	-8.3	63	71	-9	44	10	0	231	305	2.0	29	11.6	NW	21+	6	10	12	6.2	54
DELAWARE																																
WILMINGTON	23	1011.9	1014.9	5.9	-4.6	0.7	-0.2	20.6	27	-13.9	6	0	21	-6.1	63	28	-42	24	6	1	T	51	2.8	28	16.5	27	25	7	11	10	5.6	
DIST. OF COLUMBIA																																
WASHINGTON DULLES	88	1003.7	1015.6	8.8	-5.7	1.6	0.6	21.7	23	-14.4	18+	0	24	-7.2	55	12	-54	11	4	0	T	T	2.3	26	15.6	26	25	13	7	8	4.7	
WASHINGTON NATIONAL	3	1013.5	1016.0	9.8	-2.3	3.8	0.8	23.3	27	-10.0	7+	0	21	-5.0	56	17	-45	15	3	0	0	T	2.3	27	15.2	NW	25+	11	8	9	5.0	77
FLORIDA																																
APALACHICOLA U	6	1020.3	1021.0	16.0	4.1	10.1	-3.2	22.8	19	-3.3	1	0	5	4.4	71	90	-6	30	7	4	T	0	0.5	6	10.3	NW	24	13	8	7	4.5	74
DAYTONA BEACH	9	1019.0	1020.4	19.1	7.0	13.1	-2.3	30.0	27	-0.6	18	0	3	6.7	69	62	-12	39	5	4	0	0	1.2	34	11.2	36	9	10	8	10	5.1	
FORT MYERS	5	1019.6	1019.8	22.3	9.9	16.1	-2.1	28.3	27+	2.2	22	0	0	10.6	72	4	-48	2	4	0	0	0	1.3	3	10.7	29	20+	10	12	6	4.9	
JACKSONVILLE	8	1019.6	1020.7	17.3	2.7	10.0	-3.5	27.2	25	-4.4	1	0	10	2.8	66	82	-9	57	5	2	T	T	0.9	29	12.5	SW	27+	13	8	7	4.3	69
KEY WEST	1	1018.6	1019.2	22.8	17.2	20.0	-2.0	26.7	27	11.7	18	0	0	13.9	70	38	-9	27	4	1	0	0	3.0	5	10.7	35	16	8	9	11	5.6	70
LAKELAND J	65			20.9	8.3	14.7	-2.1	30.6	27	1.1	17	0	0			88	24	34	7		0	0						10	10	8	5.1	58
MIAMI	2	1019.6	1019.8	23.2	14.7	18.9	-0.9	29.4	24+	5.0	21	0	0	13.9	74	53	4	49	5	0	0	0	1.3	36	13.4	22	24	5	12	11	6.4	
ORLANDO/MC COY AFB	29	1016.3	1020.2	21.3	6.9	14.1	-2.3	29.4	27	-1.1	18	0	1	7.2	68	45	-30	17	6	2	0	0	0.7	33	13.9	26	24	8	10	10	5.7	
PENSACOLA	34	1016.6	1020.9	16.8	5.2	11.0	-1.7	24.4	24	-3.3	1	0	5	1.7	58	37	-83	13	5	3	0	0	0.7	35	13.4	20	23	14	8	6	4.0	
TALLAHASSEE	17	1018.6	1020.9	18.7	0.4	9.6	-3.1	28.9	25	-6.7	1	0	15	1.7	63	79	-42	32	5	2	T	0	0.5	31	12.1	19	24	12	8	8	4.1	
TAMPA	6	1020.0	1020.4	20.4	7.9	14.2	-2.4	27.2	26+	0.0	22	0	1	6.7	65	61	-11	22	7	3	0	0	0.8	3	14.3	26	24	8	7	13	5.9	54
WEST PALM BEACH	5	1019.0	1019.6	22.7	12.4	17.6	-1.4	30.0	4	2.8	18	0	0	11.1	69	28	-38	11	7	0	0	0	0.8	36	10.3	25	20+	4	13	11	6.5	
GEORGIA																																
ATHENS	244	989.2	1018.7	13.7	-1.2	6.3	-1.3	25.6	26	-7.8	6	0	19	-4.4	50	45	-70	26	4	1	0	0	2.3	26	10.3	29	20	19	4	5	3.0	
ATLANTA	308	981.0	1018.8	13.1	-2.0	5.6	-1.7	24.4	26	-9.4	8	0	20	-5.6	48	54	-58	31	4	3	0	0	2.5	28	16.1	17	23	18	4	6	3.5	79
AUGUSTA	41	1013.9	1019.2	16.0	-2.0	7.0	-2.1	27.2	26	-9.4	8	0	19	-2.8	54	48	-47	26	4	1	0	0	1.9	25	13.0	29	5	19	5	4	2.9	
COLUMBUS	117	1005.8		16.4	0.0	8.2	-1.4	26.7	26+	-6.7	1	0	15	-1.1	58	51	-60	28	5	2	0	0	1.3	29	13.0	21	24	16	6	6	3.5	
MACON	108	1006.8	1019.9	16.4	-0.2	8.1	-2.1	26.1	26	-7.2	1	0	18	-0.6	59	51	-60	28	5	1	0	0	1.6	27	14.3	SE	24	16	7	5	3.2	62
ROME	194			13.9	-3.1	5.4	-1.2	28.3	26	-11.7	2	0	22			59	-73	33	4		0	0										
SAVANNAH	14	1018.6	1020.4	16.7	2.4	9.6	-1.6	26.7	25	-5.0	1	0	13	-0.6	56	46	-26	15	7	3	T	0	1.7	26	14.3	W	20	14	8	6	3.8	78
HAWAII																																
HILO	8	1016.3	1017.6	28.6	18.1	23.3	1.7	31.1	1	15.0	19	0	0	16.7	71	243	-85	123	15	0	0	0	1.0	16	8.9	E	9	5	12	11	5.9	56
HONOLULU	2	1016.9	1017.5	28.6	19.8	24.2	1.8	30.6	21+	15.6	18+	0	0	17.8	69	8	-54	6	6	0	0	0	2.9	7	12.5	NE	24	9	15	4	4.5	69
KAHULUI	15	1014.6	1017.0	28.0	18.1	23.1	1.1	30.0	22+	15.0	18	0	0			23	-44	9	10	0	0	0	3.2	6	14.3	E	28	18	9	1	3.3	80
LIHUE	31	1013.5	1018.6	25.7	19.5	22.6	0.8	27.2	10	16.7	19+	0	0	18.9	80	81	-28	32	14	0	0	0	2.6	5	12.1	E	28	11	8	9	5.0	71
IDAHO																																
BOISE	865	922.1	1025.6	7.0	-5.1	1.0	-0.9	20.6	20	-13.9	4	0	28	-4.4	71	14	-15	6	6	1	89	76	0.3	17	16.1	SW	21	3	11	14	6.8	65
LEWISTON	431			10.2	0.3	5.3	1.9	18.9	10	-3.9	24	0	14			9	-12	4	4		5	T			21.0Y		20	2	7	19	8.3	
POCATELLO	1358	867.9	1026.2	3.8	-8.9	-2.5	-1.1	12.2	17	-17.8	7+	0	27	-8.3	69	9	-11	9	4	0	15	25	0.9	24	12.5	SW	28	7	8	13	6.8	69
ILLINOIS																																
CAIRO U	96			9.1	-1.1	4.0	-0.3	20.6	22	-12.2	7	0	16			34	-62	23	5		T	25			15.6	SW	22					61
CHICAGO O HARE	201	989.8	1014.9	1.6	-7.3	-2.8	0.4	14.4	23	-23.3	7	0	22	-8.3	66	18	-15	6	7	1	102	127	2.8	25	13.4	25	25+	8	5	15	6.6	
CHICAGO MIDWAY	185	992.2	1015.6	1.3	-6.9	-2.8	-0.2	15.6	23	-20.6	6	0	24	-8.9	64	18	-22	6	7	1	213	203	2.8	25	14.8	W	25	8	5	15	6.5	47
MOLINE	177	993.9	1016.2	2.7	-8.2	-2.7	0.8	17.2	22	-27.2	7	0	24	-9.4	60	16	-17	11	4	0	64	102	2.9	27	14.3	SW	24	8	7	13	6.0	62
PEORIA	199	991.5	1016.5	2.4	-8.1	-2.8	-0.4	18.3	22	-25.0	7	0	26	-7.8	68	24	-14	14	7	1	104	152	2.2	25	14.3	W	24+	8	7	13	6.1	63
ROCKFORD	221	987.5	1015.7	0.5	-10.0	-4.7	-0.3	12.8	23	-26.1	6	0	26	-9.4	68	16	-17	7	5	1	109	178	2.1	27	14.3	27	25	9	4	15	6.2	
SPRINGFIELD	179	994.2	1017.3	3.7	-6.4	-1.4	-0.5	18.9	22	-22.8	7	0	19	-5.0	76	31	-14	11	11	1	226	254	2.6	24	19.2	S	23	8	8	12	5.7	64
INDIANA																																
EVANSVILLE	116	1003.7	1018.1	6.4	-4.4	1.1	-1.1	20.0	22	-20.0	2	0	20	-3.9	70	33	-50	14	9	1	23	203	1.7	26	14.8	SW	24	10	8	10	5.5	64

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	984.8	1015.8	0.7	-8.3	-3.8	-1.3	17.2	23	-25.0	6	0	23	-7.2	77	55	3	35	11	0	234	229	3.8	25	15.6	W	25	5	5	18	7.5	56
INDIANAPOLIS	241	986.8	1017.0	2.7	-6.9	-2.1	-1.4	18.9	23	-24.4	6	0	21	-5.0	82	92	32	64	10	1	91	203	2.3	25	13.9	SW	24	6	9	13	6.4	57
SOUTH BEND	236	985.8	1014.8	1.2	-7.0	-2.9	0.3	15.0	23	-23.3	6	0	23	-6.7	75	32	-17	9	14	0	353	559	3.0	24	14.3	27	25	3	6	19	7.7	
IOWA																																
BURLINGTON	211			3.3	-7.4	-2.1	0.6	18.9	22	-21.1	7+	0	24	-7.2	68	19	-12	15	6	1	43	152	2.5	28	13.0	27	24	10	5	13	5.7	
DES MOINES	286	980.7	1016.5	5.4	-7.9	-1.2	3.1	18.3	22	-18.9	7	0	27			9	-18	7	4	1	23	51	2.3	29	17.9	NW	24	8	9	11	5.5	66
DUBUQUE	322			0.2	-9.6	-4.7	0.9	11.7	11	-25.6	7	0	27			28	-4	23	3		33	127										
SIOUX CITY	334	976.0	1017.2	5.1	-9.2	-2.1	2.7	17.2	21+	-21.1	1	0	28	-7.2	71	6	-18	4	5	1	20	T	2.1	32	17.9	NW	4	11	6	11	5.5	65
WATERLOO	265	983.1	1016.1	1.6	-11.3	-4.8	1.4	13.9	10	-26.1	7+	0	27	-11.7	61	17	-6	14	3	1	46	76	2.5	30	14.8	35	4	8	5	15	6.4	
KANSAS																																
CONCORDIA	448	963.1	1017.4	10.3	-4.4	2.9	3.2	23.3	21	-12.8	1	0	23	-5.6	61	1	-23	1	2	0	5	T	2.1	29	17.0	NW	13	9	10	9	5.3	78
DODGE CITY	787	925.2	1017.3	13.6	-2.6	5.5	3.7	26.1	21	-11.1	7	0	19	-6.1	51	4	-12	4	2	0	0	T	2.4	31	21.9	NW	23	9	11	8	5.0	79
GOODLAND	1114	887.9	1017.4	11.5	-5.8	2.8	3.1	22.2	21	-11.7	27	0	27	-9.4	48	1	-9	1	1	0	8	T	3.5	31	19.7	32	23	11	10	7	4.7	
TOPEKA	267	985.4	1018.1	10.1	-4.1	3.0	2.2	24.4	21	-18.3	1	0	22	-4.4	61	6	-19	5	3	2	T	102	1.7	27	18.3	NW	18	9	10	9	4.9	68
WICHITA	403	969.2	1018.1	13.6	-2.9	5.4	3.0	24.4	21	-10.6	7	0	21	-4.4	55	2	-23	1	3	1	T	T	1.3	30	18.8	SW	22	13	7	8	4.7	72
KENTUCKY																																
COVINGTON	265	984.4	1017.1	4.0	-6.4	-1.2	-1.9	20.0	23	-22.8	6	0	23	-6.7	68	33	-44	15	11	1	107	229	3.0	25	12.5	26	27	6	8	14	6.7	
LEXINGTON	294	981.4	1017.9	6.8	-3.6	1.6	-0.2	23.9	26	-16.7	7+	0	18	-5.6	63	26	-61	11	10	0	89	127	2.5	21	14.3	14	24	6	7	15	6.5	
LOUISVILLE	145	999.7	1017.7	8.3	-2.8	2.7	0.6	23.9	26	-15.0	2	0	19	-3.9	67	37	-51	16	12	0	20	51	2.5	24	17.4	S	23	7	10	11	6.2	55
LOUISIANA																																
ALEXANDRIA	28	1015.9	1020.1	18.4	3.8	11.1	0.8	29.4	25	-5.0	1	0	10	3.9	67	51	-68	25	7	2	0	0	0.7	22	11.2	28	23	12	8	8	4.7	
BATON ROUGE	20	1018.0	1020.7	18.3	5.1	11.7	-0.4	28.9	25	-3.3	1	0	4	5.0	66	99	-22	56	4	1	0	0	0.2	20	13.0	18	23	13	5	10	4.6	
LAKE CHARLES	3	1019.3	1020.4	18.3	6.3	12.3	-0.5	26.7	25	-0.6	16	0	2	5.0	66	39	-75	26	7	1	0	0	0.5	13	11.6	18	22	13	3	12	5.1	
NEW ORLEANS	1	1019.6	1020.4	18.1	6.2	12.1	-1.0	28.3	26	-1.1	7	0	2	6.1	69	70	-53	32	7	5	0	0	0.2	9	11.2	18	23	13	4	11	4.7	73
SHREVEPORT	77	1010.5	1019.7	18.3	2.6	10.4	0.2	31.7	25	-6.1	1	0	12	2.8	66	93	-1	80	5	2	0	25	1.1	24	13.0	29	23	12	6	10	5.0	76
MAINE																																
CARIBOU	190	985.8		-5.4	-15.8	-10.6	0.0	1.1	28	-30.0	24	0	28			76	22	25	16		874	1600						1	8	19	8.1	
PORTLAND	13	1008.1	1010.7	-0.2	-11.0	-5.6	-0.6	5.0	12	-18.3	17+	0	28	-9.4	74	95	6	50	9	0	201	635	1.5	31	17.0	E	25	5	10	13	6.5	52
MARYLAND																																
BALTIMORE	45	1009.8	1015.4	8.5	-3.5	2.5	0.9	22.8	27	-12.2	18	0	21	-6.1	55	16	-55	15	3	1	T	0	2.7	29	17.9	W	25	11	8	9	5.0	68
MASSACHUSETTS																																
BLUE HILL OBS R	192			1.3	-6.4	-2.5	0.0	7.8	25+	-15.6	17	0	24			68	-33	26	11		246	406			20.6	WSW	25					54
BOSTON	5	1010.8	1012.0	2.6	-4.0	-0.7	0.2	8.9	25+	-12.8	17	0	22	-8.3	58	61	-29	27	12	0	150	178	3.2	28	17.0	W	25	9	6	13	6.0	57
WORCESTER	301	973.2		-0.3	-7.6	-3.9	-0.1	8.9	11	-17.2	17	0	26	-10.0	63	62	-18	29	13	0	351	457	3.4	29	13.4	28	6+	7	9	12	6.1	
MICHIGAN																																
ALPENA	210	985.8	1012.2	-2.7	-11.3	-7.0	0.6	5.6	11	-23.3	17	0	28	-11.7	70	56	21	31	10	0	287	330	2.2	27	9.8	SE	24+	3	8	17	7.6	42
DETROIT	189			0.7	-5.6	-2.4	0.4	11.7	24	-15.6	6	0	23	-8.3	65					0			3.5	25	13.0	27	25					
DETROIT METRO	193	989.2	1014.1	0.4	-8.0	-3.8	-0.8	12.8	23	-19.4	8	0	25	-8.3	70	42	-3	22	11	0	127	152	3.2	26	16.1	SW	24	3	9	16	7.1	46
FLINT	235	984.4	1013.2	-1.6	-9.1	-5.3	-0.8	10.0	24	-20.0	6	0	28	-10.0	70	18	-22	7	8	0	97	203	3.2	26	12.5	25	25+	3	9	16	7.5	
GRAND RAPIDS	239	983.7	1013.9	-0.9	-9.4	-5.1	-0.9	8.9	24	-22.8	6	0	28	-8.9	75	34	-4	17	10	0	127	203	2.8	25	15.6	SW	25	4	8	16	7.5	36
HOUGHTON LAKE	350	968.8	1012.5	-2.8	-12.9	-7.9	-0.2	6.1	24	-27.2	17	0	28	-10.0	80	37	7	21	10	0	290	305	2.1	28	9.4	27	25+	2	6	20	7.9	
LANSING	256	981.0	1013.7	-0.7	-9.1	-4.9	-0.4	11.1	23	-22.2	6	0	27	-7.2	81	17	-24	6	11	0	89	279	3.0	26	16.5	W	25	3	9	16	7.2	47
MARQUETTE U	206			-3.3	-10.2	-6.7	0.2	7.2	10	-20.0	5	0	28			40	1	17	15		445	508			10.7	NW	13+					51
MUSKEGON	191	990.2	1014.2	-2.1	-9.1	-5.6	-1.4	6.7	24+	-21.7	6	0	28	-8.9	74	29	-15	8	14	0	287	762	2.1	26	12.5	20	24	2	6	20	7.8	
SAULT STE MARIE	220	983.7	1011.6	-5.7	-14.0	-9.8	-0.5	2.8	12	-26.7	6	0	28	-11.1	85	73	36	28	18	0	668	914	1.6	30	13.9	SE	24	2	3	23	8.6	34
MINNESOTA																																
DULUTH	435	960.0	1013.8	-3.7	-12.8	-8.2	2.8	7.2	10	-26.7	16	0	28	-13.3	68	12	-10	7	9	0	130	229	2.2	31	17.4	NE	23	7	5	16	6.7	54
INTERNATIONAL FALLS	359	969.5	1014.7	-5.6	-16.0	-10.8	3.1	5.0	8	-32.2	6	0	28	-15.0	69	26	8	17	10	0	361	330	1.5	31	9.8	8	23	7	5	16	7.0	
MINNEAPOLIS	254	983.7	1015.3	-0.3	-10.1	-5.2	3.4	10.6	21	-23.9	6	0	28	-11.1	63	24	2	16	6	0	46	229	2.2	30	14.8	NW	25	7	8	13	6.2	67
ROCHESTER	395	965.5	1015.0	-0.1	-11.3	-5.7	2.7	10.6	11	-26.1	6	0	28	-9.4	74	25	8	19	6	0	46	127	3.1	29	14.3	28	25	6	8	14	6.7	
ST CLOUD	313	977.0	1016.0	-1.3	-13.2	-7.2	3.2	8.9	21	-26.1	6	0	28			25	5	21	4		89	178						8	8	12	5.9	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10		
	m	mb	mb	°C	°C	C	C	°C		°C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1008.1	1020.1	16.9	2.3	9.6	-0.3	28.9	25	-8.3	1	0	12	1.7	62	57	-60	19	6	3	0	T	0.6	22	11.2	18	26+	12	8	8	4.6	75
MERIDIAN	88	1009.5	1020.8	16.4	0.7	8.6	-1.3	26.7	25	-8.3	1	0	15	0.6	64	122	-2	61	6	2	0	T	1.2	24	10.7	18	26+	13	7	8	4.6	
MISSOURI																																
COLUMBIA REGIONAL	270	984.4	1017.6	5.8	-4.9	0.5	-0.4	21.1	22	-17.8	7	0	21	-5.0	69	31	-12	18	8	1	239	178	2.1	26	18.8	SW	23	10	6	12	5.4	70
KANSAS CITY	309	979.7	1017.5	7.4	-4.0	1.7	1.1	20.0	21	-13.9	7+	0	21	-3.9	69	14	-17	13	3	1	8	127	1.6	26	14.8	NW	24+	13	6	9	4.8	74
ST JOSEPH	247			7.4	-4.3	1.6	1.8	20.0	21	-20.6	1	0	20			6	-20	6	1		T	25										
ST LOUIS	163	997.0	1018.1	7.0	-3.9	1.6	-0.2	23.3	22	-16.1	7	0	20	-3.3	72	63	10	27	7	2	170	178	2.4	27	15.6	NW	4	10	8	10	5.3	61
SPRINGFIELD	386	971.6	1018.1	9.7	-3.1	3.3	0.5	20.6	22	-11.7	1	0	23	-3.3	65	42	-15	20	4	2	25	76	1.4	23	15.6	SE	22	11	9	8	4.8	61
MONTANA																																
BILLINGS	1087	892.0	1018.5	9.1	-2.9	3.1	5.7	17.8	21	-7.8	6	0	24	-8.9	44	1	-15	1	2	0	8	T	4.8	26	17.9	NW	22	6	10	12	6.4	64
GLASGOW	696	933.6	1018.2	1.7	-7.9	-3.1	6.3	10.6	21	-18.3	1	0	28	-5.6	83	3	-5	3	3	0	8	127	1.0	32	13.9	30	17	4	10	14	7.0	
GREAT FALLS	1116	889.6	1019.4	10.2	-2.2	4.0	7.0	18.9	20	-7.2	2	0	21	-6.7	49	5	-14	3	4	0	46	25	5.6	23	20.6	SW	16	3	5	20	7.5	55
HAVRE	788	923.5	1017.7	7.6	-5.3	1.2	9.2	17.2	20	-20.6	1	0	25	-5.0	69	2	-8	2	2	0	10	102	3.8	25	13.9	NW	13	2	11	15	6.8	70
HELENA	1167	884.2	1022.8	7.7	-5.4	1.2	4.8	15.0	16	-11.1	6	0	24	-6.7	59	3	-6	2	4	0	20	T	2.0	27	19.2	W	16	5	7	16	7.0	62
KALISPELL	904	916.4	1024.1	3.7	-4.9	-0.6	3.3	13.3	16	-12.2	3	0	24	-3.9	83	25	0	14	10	0	160	76	1.0	18	9.4	26	16	1	5	22	8.6	
MILES CITY	801	922.8	1018.2	4.9	-5.3	-0.2	5.6	15.0	21	-17.8	1	0	26	-4.4	74	3	-10		4	0	20		2.1	28								
MISSOULA	972	909.2	1024.5	5.7	-5.8	-0.1	2.6	14.4	16	-15.0	6	0	27	-3.9	81	5	-14	2	7	0	46	25	0.5	30	15.2	SW	16	4	6	18	7.3	54
NEBRASKA																																
GRAND ISLAND	561	949.2	1017.2	9.7	-7.4	1.2	3.6	22.8	21	-17.8	1	0	27	-7.2	61	5	-15	4	2	0	28	T	2.8	31	16.5	33	23+	10	9	9	4.9	
LINCOLN	359	973.2	1017.2	8.6	-8.9	-0.2	2.1	20.6	21	-18.9	1	0	28	-7.8	61	2	-21	2	1	0	T	T	2.1	31	21.0	NW	4	9	8	11	5.5	63
NORFOLK	471	959.4	1016.5	6.9	-8.2	-0.6	3.9	21.1	21	-18.3	1	0	28	-8.9	59	21	1	15	4	1	102	102	3.3	32	19.7	35	4	10	7	11	5.6	
NORTH PLATTE	846	917.7	1018.1	9.4	-9.5	0.0	2.2	21.7	21	-16.7	1	0	28	-8.9	60	7	-6	5	4	0	56	51	2.8	32	21.9	NW	23	9	8	11	5.5	70
OMAHA	298	980.7	1017.2	8.1	-6.7	0.7	2.9	22.2	21	-20.6	1	0	27	-5.0	71	10	-15	8	4	1	T	25	1.4	33	19.7	N	4	11	7	10	5.3	62
SCOTTSBLUFF	1206	879.8	1018.5	11.1	-6.1	2.6	3.9	20.6	21	-14.4	26	0	27	-9.4	47	1	-8	1	1	0	T	T	4.1	31	16.5	32	23	9	4	15	6.0	
VALENTINE	789	922.8		6.1	-7.6	-0.7	3.4	18.9	21	-20.6	1	0	28	-6.7	70	20	7	16	7		262	203	2.9	32	22.8	NW	17	9	10	9	5.2	64
NEVADA																																
ELKO	1539	849.6	1024.4	10.8	-6.8	2.0	3.6	19.4	20	-11.7	4	0	28	-8.9	52	7	-13	2	5	0	46	25	0.8	26	13.9	24	21	6	10	12	6.3	
ELY	1906	812.4	1023.9	10.1	-11.8	-0.8	1.4	18.9	20+	-16.1	3+	0	28	-17.8	32	2	-13	1	4	0	15	T	1.2	21	13.4	S	21	9	9	10	5.8	
LAS VEGAS	659	942.8	1020.2	20.8	3.8	12.3	2.8	27.2	18	-1.1	26	0	1	-10.0	23	0	-8	0	0	0	0	0	1.8	28	23.2	SW	21	17	7	4	3.5	89
RENO	1342	871.0	1023.6	14.0	-5.2	4.4	1.6	22.8	16	-8.9	4+	0	28	-5.0	60	18	-4	16	3	0	36	25	0.4	24	16.5	SW	28	6	10	12	6.2	80
WINNEMUCCA	1311	874.0	1024.3	14.4	-7.2	3.6	2.4	22.2	16	-14.4	4	0	28	-7.8	49	4	-17	2	3	0	23	25	0.4	18	15.2	SW	21	5	9	14	6.6	70
NEW HAMPSHIRE																																
CONCORD	104	998.6	1011.6	-0.6	-12.3	-6.4	-1.2	6.7	12	-23.9	3	0	28	-10.0	73	51	-11	30	12	0	297	432	1.8	29	13.4	W	21	8	6	14	6.2	59
MT WASHINGTON OBS	1909			-10.8	-18.9	-14.8	0.2	1.1	28+	-31.1	2	0	28			307	142	127	24	0	1664	660			68.8Y	E	25	4	2	22	8.4	25
NEW JERSEY																																
ATLANTIC CITY	20	1012.2	1014.6	6.2	-5.3	0.4	-0.6	20.6	23	-15.6	6	0	23	-6.1	64	36	-50	20	6	2	13	T	3.4	26	15.6	26	25	12	8	8	4.7	69
ATLANTIC CITY U	3			5.6	-1.6	2.0	0.1	17.2	25	-10.0	6	0	16			53	-28	24	7						16.5	NW	6					
NEWARK	2	1012.9	1013.8	4.6	-3.7	0.4	0.1	14.4	25	-13.9	6	0	19	-5.6	66	70	-5	52	8	0	147	76	2.8	28	15.6	31	5	7	12	9	6.2	
TRENTON U	17			5.9	-3.1	1.4	0.7	20.6	27	-12.8	6	0	18			53	-15	42	7		36	51			14.8	S	24	8	13	7	5.3	61
NEW MEXICO																																
ALBUQUERQUE	1619	839.1	1018.6	12.8	-3.2	4.8	0.4	20.0	18	-9.4	28	0	26	-8.3	44	3	-7	3	3	0	36	25	1.1	35	21.9	NW	22	14	7	7	4.4	79
CLAYTON	1515			12.4	-3.6	4.4	2.1	22.2	21	-10.0	7	0	27			1	-8	1	1		25	25										
ROSWELL	1112	891.3	1016.9	17.2	0.8	9.0	2.9	27.8	21+	-5.6	1	0	15	-5.0	45	9	0	5	4	0	10	T	1.5	28	25.0	NW	22	16	9	3	3.2	86
NEW YORK																																
ALBANY	84	1002.4	1013.3	0.4	-8.7	-4.2	0.6	11.1	27	-18.9	22	0	26	-8.9	70	67	13	37	11	0	455	279	2.8	28	17.0	NW	1	4	10	14	7.0	40
BINGHAMTON	485	952.6	1013.1	-0.8	-7.9	-4.4	0.7	10.6	27+	-18.3	6	0	25	-9.4	69	39	-18	13	16	0	272	330	3.0	26	13.9	SE	24	1	5	22	8.5	34
BUFFALO	215	986.8	1013.3	-0.8	-7.4	-4.1	0.1	13.9	27	-17.2	6	0	26	-7.2	80	40	-24	7	24	0	577	1092	4.6	23	17.9	SE	24	0	3	25	8.9	27
NEW YORK U	40	1010.5	1013.6	4.5	-2.9	0.8	0.1	14.4	25	-13.3	6	0	17	-6.1	62	64	-10	44	8	1	147	102	2.0	31	11.2	NNW	5					75
NEW YORK KENNEDY	4	1013.2	1013.9	3.7	-3.6	0.1	-0.1	13.3	25	-12.2	6	0	19	-5.0	71	61	-16	33	8	0	89	51	3.0	29	13.0	32	5	9	10	9	5.7	
NEW YORK LA GUARDIA	3	1012.9	1014.0	4.2	-2.9	0.7	0.1	12.8	26+	-12.8	6	0	17	-7.2	57	54	-25	35	8	1	147	51	2.8	29	15.6	W	25	8	11	9	6.0	
ROCHESTER	167	992.6	1013.5	-0.1	-7.2	-3.7	0.3	12.8	27	-16.7	6	0	26	-6.7	80	25	-37	7	19	0	381	533	4.1	25	17.4	SW	27	0	7	21	8.6	29

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	°C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	997.6	1013.1	0.3	-7.0	-3.3	0.8	10.0	27+	-16.1	18	0	24	-7.8	72	41	-30	19	16	0	620	381	2.6	26	15.2	SE	27	0	3	25	9.2	27
NORTH CAROLINA																																
ASHEVILLE	652	939.7	1017.7	10.8	-4.8	3.0	-1.1	25.0	26	-15.0	8	0	22	-7.2	51	26	-66	14	5	1	18	T	2.1	33	11.2	34	28+	18	4	6	3.3	77
CAPE HATTERAS R	2	1017.6	1018.1	12.0	1.6	6.8	-0.8	22.2	27	-8.3	18	0	16	1.1	67	42	-64	23	5	1	25	25	2.2	28	9.4	25	24+	14	11	3	3.4	76
CHARLOTTE	224	990.2	1018.1	12.9	-1.7	5.6	-1.1	27.2	26	-10.6	6	0	20	-6.1	46	38	-60	20	5	2	T	T	1.4	24	15.2	SW	24	16	7	5	3.7	74
GREENSBORO	273	985.1	1017.5	11.2	-3.3	3.9	-0.8	27.2	26	-11.1	8+	0	22	-5.0	56	43	-43	20	5	1	30	25	2.1	26	13.0	NW	5	16	4	8	3.6	80
RALEIGH	132	1001.4	1017.7	11.9	-3.9	4.1	-1.6	28.9	26	-13.9	8	0	21	-5.6	56	54	-30	28	4	3	38	51	1.8	26	9.8	31	5	16	6	6	3.8	77
WILMINGTON	9	1017.6	1018.9	15.2	-0.1	7.6	-1.4	28.3	26	-8.3	8	0	17	-0.6	62	46	-40	23	5	2	8	T	1.7	26	13.4	SW	27	15	7	6	3.6	75
NORTH DAKOTA																																
BISMARCK	502	955.6	1017.5	0.8	-9.8	-4.5	5.8	10.0	21	-26.1	1	0	28	-8.3	75	8	-3	3	4	0	130	76	2.1	31	17.4	NW	4	5	8	15	7.4	42
FARGO	273	982.1	1016.2	-3.6	-12.6	-8.1	3.8	7.8	11	-28.3	6	0	28	-11.7	77	31	20	22	7	0	272	229	1.9	33	16.1	NW	12	5	12	11	6.4	56
WILLISTON	579	946.5	1017.4	1.3	-9.0	-3.8	6.1	9.4	21	-21.7	1	0	28	-6.7	81	8	-6	5	4	0	79	102	2.3	29	14.3	NW	11	2	9	17	7.5	47
OHIO																																
AKRON	368	969.5	1015.5	1.6	-7.2	-2.8	-0.4	16.1	27	-20.6	8	0	23	-8.3	66	29	-26	9	12	0	142	381	3.7	24	13.0	27	24	4	6	18	7.6	
CINCINNATI ABBE OB	232			4.8	-4.9	-0.1	-1.4	20.6	23	-21.1	7	0	21			22	-53	12	10						14.3	W	25					40
CLEVELAND	237	985.4	1015.7	0.6	-8.4	-3.9	-1.6	15.0	23	-22.2	8	0	25	-7.8	74	35	-20	8	15	0	244	406	3.6	23	12.5	SW	27+	2	4	22	8.1	57
COLUMBUS	247	985.8	1017.0	1.8	-7.9	-3.1	-2.1	18.3	23	-25.0	8	0	24	-9.4	62	26	-33	9	9	0	170	330	2.4	23	18.8	SW	24	5	8	15	7.0	52
DAYTON	303	979.0	1016.5	2.2	-7.2	-2.5	-1.6	18.3	23	-22.2	6	0	22	-6.7	73	45	-12	14	12	0	269	356	3.3	24	15.2	SW	24	7	6	15	6.6	51
MANSFIELD	395			-0.6	-8.8	-4.7	-3.3	13.3	23	-22.8	8	0	25	-7.2	83	30	-21	9	12	0	254	381	4.4	23	15.6	26	25	4	7	17	7.4	
TOLEDO	204	988.8	1015.0	0.4	-9.1	-4.3	-1.6	16.1	23	-23.9	8	0	25	-7.8	74	51	6	26	9	0	221	279	3.4	25	15.2	SW	13	4	8	16	7.0	48
YOUNGSTOWN	359	970.9	1015.1	0.4	-8.4	-4.0	-1.1	16.7	27	-22.8	8	0	25	-10.0	63	30	-31	6	12	0	267	457	3.7	25	14.3	26	25	2	6	20	7.9	
OKLAHOMA																																
OKLAHOMA CITY	392	971.2	1018.3	15.3	0.2	7.7	2.6	25.0	22	-7.2	5	0	14	-1.7	56	36	2	29	6	2	10	0	0.6	25	21.5	SW	22	9	10	9	5.0	
TULSA	198	993.6	1018.4	15.3	0.8	8.1	3.0	26.1	21	-8.9	7	0	14	-2.8	52	40	-4	32	6	2	8	T	1.0	25	19.2	S	22	15	7	6	4.0	72
OREGON																																
ASTORIA	2	1020.0	1020.7	11.8	4.6	8.2	1.8	16.7	18	0.0	3	0	1	5.0	81	133	-66	39	17	0	T	0	1.6	14	14.3	20	20	2	4	22	8.4	
BURNS U	1265			9.4	-5.7	1.8	2.4	17.2	17	-12.2	4+	0	28			11	-19	5	4		104	51			20.6Y	SW	20	6	10	12	6.1	
EUGENE	109	1008.5	1022.4	12.3	1.6	6.9	0.6	18.9	15	-2.8	7	0	13	3.9	85	128	10	35	11	0	T	T	1.6	18	12.1	19	21	0	5	23	9.0	
MEDFORD	396	974.9	1023.5	14.8	-1.5	6.7	1.5	21.1	19	-7.2	3+	0	19	1.1	75	17	-38	6	9	1	T	0	0.4	21	11.2	15	20	4	6	18	7.4	
PENDLETON	452	969.2	1024.1	9.7	0.8	5.3	1.4	20.0	12	-2.2	20+	0	14	0.0	74	16	-11	12	6	0	13	T	0.9	26	13.0	27	28	2	6	20	8.2	
PORTLAND	6	1020.7	1022.0	11.3	2.7	7.0	1.0	20.0	18	-2.2	14	0	4	2.8	78	63	-40	21	12	0	0	0	2.5	14	13.0	W	28+	3	2	23	8.0	44
SALEM	60	1014.2	1021.7	12.9	0.9	6.9	0.9	19.4	18	-6.7	3	0	13	2.8	78	72	-50	23	11	0	0	0	1.7	20	13.9	21	28	4	3	21	7.9	
SEXTON SUMMIT R	1169	887.6	1021.6	10.1	2.8	6.4	3.5	19.4	19	-4.4	25	0	8			60	-43	17	10		470	279			20.6	23	21					
PACIFIC AREA																																
GUAM TAGUAC R	110			28.6	21.3	25.0	-0.2	29.4	28+	16.7	4	0	0			76	-32	17	20		0	0			11.2	NE	9	0	6	22	8.3	74
JOHNSTON	2	1014.2	1014.8	27.4	23.5	25.4	0.7	28.3	1	21.1	4	0	0	20.6	75	10	-40	4	9	0	0	0	7.7	8	13.9	NE	5	18	10	0	3.4	85
KOROR R	29	1006.1		30.5	24.2	27.3	0.3	31.7	17+	22.2	8	0	0			135	-54	32	17	0	0	0	4.1	7	11.2	E	25+	0	1	27	9.4	47
KWAJALEIN	2	1009.5		30.4	25.4	27.9	0.5	31.1	25+	24.4	22	0	0			1	-59	1	2	0	0	0	7.1	7	10.7	6	5	6	8	14	6.9	
MAJURO	3	1009.5		29.9	24.8	27.4	0.1	31.1	28	23.3	14+	0	0			20	-158	6	7		0	0	6.9	6	11.6	E	24+	0	9	19	8.5	69
PAGO PAGO	4	1009.1	1009.4	31.2	24.6	27.9	1.0	33.3	20	22.8	26+	6	0	23.9	80	160	-200	47	20	5	0	0	2.3	5	18.8	NW	22	0	12	16	7.8	57
PONAPE R	37			31.2	25.0	28.1	1.1	32.2	28+	22.8	6	5	0			27	-264	7	15	0	0	0			8.0	E	25+	0	7	21	8.0	49
TRUK MOEN ISLAND	2	1009.5		29.9	25.2	27.6	0.3	30.6	28+	23.3	6	0	0			50	-112	20	11	0	0	0	5.8	6	12.1	E	25	0	1	27	9.7	49
WAKE	3	1015.2	1015.4	28.1	21.8	24.9	-0.1	30.0	18+	20.6	14+	0	0	21.1	82	22	-9	6	13	0	0	0	5.3	6	16.5	NE	21	10	15	3	4.5	75
YAP R	13	1008.1		30.2	23.7	26.9	0.0	30.6	28+	22.2	5	0	0			55	-82	19	20	0	0	0	4.7	8	9.6	NE	27+	0	5	23	8.7	76
PENNSYLVANIA																																
ALLENTOWN	118	1000.3	1014.6	4.3	-5.7	-0.7	0.8	16.7	27	-16.1	9	0	21	-6.1	68	65	-6	34	9	2	213	178	2.8	28	13.4	28	24	8	10	10	5.8	
ERIE	223	987.1	1014.9	-0.3	-7.6	-3.9	-0.1	13.3	27	-17.8	8	0	25	-6.7	82	37	-17	13	13	0	330	635	4.1	23	13.4	25	27+	2	4	22	8.4	
HARRISBURG	103	1002.0	1015.0	3.8	-5.6	-0.9	-1.1	16.1	23	-13.3	9	0	23			44	-17	25	8	0	114	102	2.7	29				8	10	10	5.6	72
PHILADELPHIA	2	1013.9	1015.0	6.1	-4.4	0.9	-0.2	20.6	23	-13.3	7+	0	23	-7.2	57	34	-33	28	6	1	5	25	2.9	28	14.8	NW	5	7	11	10	5.6	64
PITTSBURGH	347	97[illegible].5	1016.0	1.8	-7.5	-2.8	-1.3	18.3	27	-20.6	8	0	23	-10.6	57	22	-38	5	11	0	163	254	3.5	26	16.1	26	25	4	5	19	7.6	35
SCRANTON	283	978.7	1014.0	1.6	-7.2	-2.8	-0.2	15.0	23	-16.7	22	0	23	-7.8	70	46	-4	23	12	1	330	229	1.8	26	13.4	E	24	3	7	18	7.4	50
WILLIAMSPORT	160	994.9	1014.5	3.5	-7.0	-1.7	0.2	15.0	23	-18.3	9	0	21	-7.8	64	44	-21	29	9	0	185	203	2.4	29	14.3	27	25	6	6	16	6.8	
RHODE ISLAND																																
BLOCK ISLAND	34			1.0	-4.8	-1.9	-1.5	6.7	26+	-12.8	17	0	24			56	-29	15	9		211	102										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths, sunrise to sunset	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower			Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1010.2	1012.6	3.1	-5.6	-1.2	0.2	10.6	25+	-13.3	17	0	23	-7.2	64	73	-15	26	12	0	290	203	2.5	29	11.6	13	25+	9	7	12	5.6	60
SOUTH CAROLINA																																
CHARLESTON	12	1018.0	1020.0	15.3	0.6	7.9	-2.3	26.1	26+	-8.3	8	0	14	-0.6	60	35	-48	18	7	2	8	0	1.8	24	13.9	19	27	17	7	4	3.1	80
CHARLESTON U	3			14.3	4.6	9.5	-1.3	25.0	25	-1.1	17+	0	5			56	-23	37	7		0	0										
COLUMBIA	65	1010.5	1018.8	16.6	-0.9	7.8	-0.8	28.9	26	-9.4	8	0	17	-3.3	50	31	-62	18	5	1	0	0	1.8	25	11.2	30	5	15	8	5	3.3	82
GRNVLLE-SPRTNBRG	292	982.7	1017.9	13.3	-1.8	5.8	-1.1	24.4	26	-8.3	6+	0	20	-5.0	49	51	-62	23	4	1	0	0	1.6	24	11.6	SW	24	19	2	7	3.0	81
SOUTH DAKOTA																																
ABERDEEN	395	967.8	1016.6	1.9	-10.6	-4.3	5.1	16.1	21	-28.3	1	0	28	-8.3	77	23	7	22	4	0	279	229	2.5	32	15.6	34	4	9	7	12	6.2	
HURON	390	968.5	1016.7	3.0	-10.3	-3.7	4.2	15.6	21	-23.3	1	0	28	-7.8	74	44	25	37	3	0	249	229	2.4	32	16.1	N	4	9	7	12	6.1	70
RAPID CITY	964	904.5	1018.0	7.3	-4.5	1.4	4.9	18.3	21	-15.0	1	0	27	-6.1	63	6	-8	4	5	0	66	51	4.4	33	27.7	NW	13	6	10	12	6.4	68
SIOUX FALLS	432	963.1	1016.6	2.9	-10.0	-3.6	3.4	17.8	21	-23.3	1	0	28	-7.8	74	21	-5	17	6	0	48	25	2.2	31	13.4	34	4	9	7	12	5.9	
TENNESSEE																																
BRISTOL	459	963.1	1018.7	8.2	-5.4	1.4	-2.3	26.7	26	-13.9	8	0	24	-6.1	61	26	-69	9	10	0	61	25	1.9	26	12.5	26	24	10	9	9	5.3	
CHATTANOOGA	203	994.2	1019.5	12.3	-2.8	4.7	-1.3	26.1	26	-11.1	2+	0	22	-3.9	59	76	-56	42	4	3	T	T	1.3	29	11.6	18	23	16	5	7	3.5	72
KNOXVILLE	299	983.1	1019.0	12.1	-1.6	5.2	-0.8	28.3	26	-10.0	2+	0	18	-4.4	55	39	-81	19	4	2	5	0	2.1	26	14.3	26	27	12	7	9	4.7	73
MEMPHIS	79	1009.5	1019.9	13.6	0.9	7.3	0.7	25.0	26	-6.1	1	0	16	-1.7	55	51	-70	25	5	2	T	0	1.5	24	14.3	25	23	16	5	7	3.9	75
NASHVILLE	180	997.0	1019.3	11.4	-1.9	4.8	-0.2	25.0	26	-12.2	8	0	18	-5.0	54	83	-29	52	6	1	T	T	2.0	25	11.6	26	24+	16	2	10	4.1	68
OAK RIDGE R	276			10.6	-5.4	2.6	-2.1	26.1	26	-13.3	8	0	23			48	-85	19	5		T	T						15	6	7	4.0	
TEXAS																																
ABILENE	544	954.6	1018.0	17.7	3.2	10.5	1.7	27.8	24+	-3.3	28+	0	7	0.0	54	2	-23	2	1	0	0	T	1.6	21	18.8	W	23	12	9	7	4.5	72
AMARILLO	1098	891.6	1016.8	14.2	-1.1	6.6	2.3	26.1	22	-6.1	7+	0	20	-5.0	51	13	-1	6	7	0	94	51	2.1	31	19.2	29	22	12	10	6	4.3	79
AUSTIN	182	997.3	1019.4	18.9	5.6	12.3	0.4	30.0	24	-0.6	6	0	2	3.3	61	66	-13	47	7	1	T	T	0.2	29	16.5	NW	23	11	11	6	4.7	72
BROWNSVILLE	6	1018.3	1019.0	22.1	11.2	16.6	-0.8	30.6	23	3.9	16	0	0	11.7	77	35	-3	20	8	0	0	0	1.0	12	14.8	S	25	9	6	13	5.7	55
CORPUS CHRISTI	12	1017.6	1019.4	20.8	8.8	14.8	-0.6	31.1	25	2.2	16	0	0	10.0	78	44	-6	18	7	0	0	0	1.4	9	15.6	18	25	12	5	11	5.0	62
DALLAS - FORT WORTH	168	997.3	1018.9	15.9	3.4	9.7	0.4	25.6	24	-7.2	1	0	5	1.7	64	43	-17	31	5	2	0	51	1.1	25	16.1	19	22	12	8	8	4.5	
DEL RIO	313	981.7	1018.3	20.3	5.7	13.0	-0.2	30.6	24+	0.6	27+	0	0	2.8	56	31	5	31	3	0	0	0	1.2	10	14.8	30	26	14	8	6	3.7	
EL PASO	1194	883.8	1017.3	17.8	-0.8	8.5	-0.6	25.0	22	-4.4	27+	0	19	-7.2	37	T	-11	T	0	0	T	0	1.2	30	21.5	26	22	16	9	3	3.0	90
GALVESTON	2			15.5	10.2	12.8	-0.6	24.4	23	5.0	1	0	0			27	-41	21	4		0	0			14.8	NW	26					69
HOUSTON INTERCON	29	1016.6	1020.4	19.3	4.9	12.1	-0.8	28.9	25	-1.1	16+	0	6	5.0	67	43	-47	31	6	0	0	0	0.4	17	12.5	29	23	13	4	11	4.9	65
LUBBOCK	992	904.8	1017.4	16.3	-0.6	7.9	1.9	27.2	22	-8.3	5	0	16	-5.0	49	10	-3	5	5	0	43	51	1.6	29	16.5	30	22	14	7	7	4.1	73
MIDLAND	869	917.7	1016.8	18.3	1.8	10.1	1.3	30.0	22	-3.9	28	0	8	-2.8	50	14	0	12	5	0	0	0	1.3	26	19.2	28	23	16	6	6	3.5	
PORT ARTHUR	5	1019.6		19.8	6.1	12.9	0.1	27.8	23	-1.1	16	0	2	5.0	64	27	-81	18	6	0	0	0	0.6	15	13.0	SW	24	12	4	12	5.1	66
SAN ANGELO	580	950.9	1018.2	18.6	3.1	10.8	0.6	28.9	24	-2.8	27	0	8	0.6	55	7	-13	5	5	0	0	0	1.7	21	20.1	27	23	16	5	7	4.1	
SAN ANTONIO	240	990.5	1019.0	19.3	3.8	11.6	-0.9	28.3	24	-2.2	27	0	5	3.3	61	23	-29	11	5	0	0	0	0.5	36	14.3	32	26	11	7	10	4.8	71
VICTORIA	32	1015.6	1019.5	19.9	7.0	13.4	-0.3	28.9	24	2.2	27+	0	0	6.7	69	65	7	42	6	1	0	0	0.3	12	19.7Y	W	23	11	5	12	5.1	
WACO	153	1000.7	1019.2	18.9	4.1	11.5	1.0	29.4	24	-3.9	1	0	5	3.3	64	93	33	77	5	2	0	0	1.1	20	15.6	25	23	11	9	8	5.0	
WICHITA FALLS	303	981.4	1018.4	16.0	2.2	9.1	1.4	26.7	22	-4.4	27+	0	9	1.7	66	33	3	27	6	1	0	T	1.3	24	15.6	30	23+	12	6	10	4.8	
UTAH																																
MILFORD	1533	850.3	1024.1	11.2	-10.4	0.4	0.7	20.6	20	-15.6	26+	0	28			3	-15	2	2		25	25			18.3	SW	21	12	9	7	4.6	86
SALT LAKE CITY	1286	876.7	1024.2	8.4	-4.2	2.1	1.3	17.2	21	-12.8	2	0	27	-5.0	66	16	-14	11	5	0	81	51	1.1	17	14.3	W	26	7	7	14	6.2	77
VERMONT																																
BURLINGTON	101	999.3	1012.3	-2.4	-10.3	-6.4	1.1	7.2	27	-22.2	2	0	27	-9.4	77	45	3	20	14	0	417	432	1.2	22	13.9	SE	24	3	4	21	8.2	31
VIRGINIA																																
LYNCHBURG	279	982.1		9.6	-4.3	2.7	-0.7	25.0	26	-13.9	7	0	21			15	-55	10	5	1	8	25	2.4	26	13.0	NW	25	16	5	7	3.6	81
NORFOLK	7	1015.9	1017.0	11.3	-0.8	5.3	0.1	26.1	27	-9.4	9	0	17	-5.0	51	57	-27	18	8	2	36	25	2.1	27	13.4	30	24	16	3	9	3.8	
RICHMOND	50	1009.8	1016.5	12.5	-3.1	4.7	0.6	25.0	27+	-12.2	8+	0	21	-4.4	55	34	-42	17	5	1	T	T	1.7	25	14.3	SW	25	16	2	10	4.1	76
ROANOKE	350	973.9	1016.8	9.4	-4.3	2.6	-0.8	24.4	26	-13.3	8+	0	21	-6.7	53	19	-60	13	5	0	38	25	3.0	29	13.4	29	5	13	9	6	4.3	
WALLOPS ISLAND	3			6.2	-2.2	2.0	-0.9	20.0	25	-8.9	9+	0	22			69	-20	29	6		T	0			23.7Y	WNW	5					
WASHINGTON																																
OLYMPIA	59	1013.2	1020.6	13.0	1.7	7.3	2.3	18.9	19	-3.3	3	0	12	3.9	82	94	-58	19	15	0	T	0	1.9	20	14.3	20	10	2	1	25	8.8	
QUILLAYUTE	55	1011.9	1019.2	11.6	2.8	7.2	1.9	16.7	14	-3.9	24	0	5	5.0	88	285	-19	41	20	0	T	0	1.3	15	20.6	SE	10	3	2	23	8.5	34
SEATTLE U	6			12.4	4.7	8.6	2.2	17.8	19	1.1	23+	0	0			54	-46	20	13		0	0			19.2Y	SW	20					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1004.1	1020.8	13.3	5.3	9.3	3.6	19.4	19	0.0	3	0	1	4.4	73	40	-66	15	11	0	T	0	1.5	21	13.9	SW	21	1	8	19	8.1	
SPOKANE	718	936.7	1022.8	5.8	-2.3	1.7	1.6	13.9	12	-8.3	24	0	25	-2.2	79	13	-29	6	7	0	64	25	1.1	20	14.3	SW	10	1	6	21	8.5	36
STAMPEDE PASS R	1206	881.8		2.6	-2.3	0.2	2.5	11.1	15	-7.8	3	0	19			207	-54	38	17		998	610										
WALLA WALLA U	289			10.1	2.4	6.2	1.7	19.4	12	-2.2	2+	0	9			16	-19	10	6		T	T			11.6	SW	28	0	7	21	8.3	35
YAKIMA	321	984.1	1023.6	9.8	-2.3	3.7	1.7	19.4	16+	-7.2	9	0	25	-1.7	73	18	-2	14	3	0	T	T	1.2	28	14.3	22	10	2	5	21	8.4	
WEST INDIES																																
SAN JUAN P.R.	4	1014.9	1017.4	29.1	21.6	25.3	1.3	31.1	20+	18.9	2	0	0	18.9	70	26	-38	7	11	0	0	0	2.9	9	11.6	E	28	5	19	4	5.3	83
WEST VIRGINIA																																
BECKLEY	763	926.5	1018.3	4.3	-6.7	-1.2	-1.5	23.3	26	-20.0	7	0	23	-7.2	67	40	-44	13	13	0	391	381	3.4	25	16.5	25	24	9	6	13	6.4	
CHARLESTON	286	982.7	1017.8	6.4	-5.1	0.7	-1.8	25.6	26	-17.8	8+	0	21	-7.2	58	27	-52	13	11	0	282	178	2.3	24	13.0	24	24	6	7	15	6.9	
ELKINS	594	943.8		4.7	-8.8	-2.1	-1.7	22.2	26	-30.0	8	0	25			29	-45	9	13	1	363	432						2	5	21	8.0	
HUNTINGTON	252	986.5	1017.5	7.2	-3.8	1.7	-0.6	26.1	26	-17.2	7	0	18	-5.6	60	19	-54	11	11	0	135	152	2.2	25	10.7	29	27	6	5	17	7.0	
PARKERSBURG U	187			5.4	-5.4	0.1	-1.4	21.1	26	-18.9	8	0	20			14	-56	5	5		66	127			13.4	W	5					41
WISCONSIN																																
GREEN BAY	208	987.1	1013.8	-1.7	-11.7	-6.7	1.1	7.2	11	-25.6	7	0	28	-12.2	65	35	9	28	6	0	61	152	2.5	27	14.3	NW	25	8	7	13	6.2	61
LA CROSSE	198	990.9	1016.3	-0.8	-10.3	-5.6	1.1	10.0	11	-24.4	7+	0	28	-10.0	73	21	-1		6	0	74		1.0	28								
MADISON	262	981.7	1014.5	0.2	-10.9	-5.3	1.2	12.2	23	-28.3	6	0	27	-9.4	71	37	12	30	3	0	66	102	2.2	27	12.5	NW	13	8	7	13	6.5	54
MILWAUKEE	205	988.2	1014.4	-0.6	-8.6	-4.6	0.7	8.3	11	-19.4	7+	0	27	-8.3	74	15	-14	5	7	0	142	152	3.2	27	15.2	SW	25+	7	6	15	6.5	52
WYOMING																																
CASPER	1627	838.1	1020.2	6.2	-7.4	-0.6	2.3	14.4	21	-15.0	27	0	27	-10.6	52	18	5	11	6	0	300	127	4.1	25	13.9	2	13	6	12	10	6.3	
CHEYENNE	1867	810.7	1018.1	7.7	-6.7	0.5	2.2	15.6	21+	-13.3	26	0	26	-12.8	41	2	-10	1	3	0	20	T	5.5	31	21.5	NW	23	7	6	15	6.4	74
LANDER	1696	830.3	1021.0	6.7	-7.5	-0.4	3.2	15.6	20	-14.4	27	0	28	-8.9	57	3	-14	2	4	0	66	152	0.8	21	13.4	NW	22	8	11	9	5.7	78
SHERIDAN	1208	879.8	1020.3	5.7	-6.0	-0.2	3.2	15.0	21	-11.1	2	0	27	-6.7	61	2	-18	1	3	0	56	178	2.6	29	18.3	NW	18	5	9	14	7.0	62

HEATING DEGREE DAYS

(Base 65°F.)

FEBRUARY 1977

State and Station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	566	3152	2319
HUNTSVILLE	628	3497	2664
MOBILE	355	2192	1423
MONTGOMERY	501	2734	1886
ALASKA			
ANCHORAGE	897	6175	7845
ANNETTE	591	4143	4757
BARROW	2285	13182	13419
BARTER ISLAND	2306	13316	13288
BETHEL	1291	8158	9152
BETTLES	1682	9871	11629
BIG DELTA	1277	7942	10159
COLD BAY	874	6230	6413
FAIRBANKS	1574	9041	10781
GULKANA	1242	7971	10338
HOMER	816	5719	7112
JUNEAU	690	4924	6280
KING SALMON	969	6879	8071
KODIAK	803	5321	5862
KOTZEBUE	1701	9618	10743
MC GRATH	1633	9512	10660
NOME	1338	8386	9635
ST. PAUL ISLAND	1048	7022	7091
TALKEETNA	1034	6814	8406
UNALAKLEET	1329	8248	9678
VALDEZ	920	6113	7408
YAKUTAT	752	5271	6458
ARIZONA			
FLAGSTAFF	858	4690	4999
PHOENIX	122	860	1307
TUCSON	221	1269	1428
WINSLOW	789	4144	3621
YUMA	106	703	884
ARKANSAS			
FORT SMITH	602	3644	2716
LITTLE ROCK	502	3078	2724
CALIFORNIA			
BAKERSFIELD	229	1418	1757
BISHOP	524	2840	3213
BLUE CANYON	559	2910	3612
EUREKA U	400	2868	3020
FRESNO	313	1926	2064
LONG BEACH	157	603	1117
LOS ANGELES	129	568	1172
LOS ANGELES U	86	501	846
MT SHASTA R	667	3835	4017
OAKLAND	296	1645	1982
RED BLUFF	297	1616	2032
SACRAMENTO	345	1859	2104
SANDBERG R	448	2504	2886
SAN DIEGO	94	405	1013
SAN FRANCISCO	326	1916	2049
SAN FRANCISCO U	242	1647	2006
SANTA MARIA	282	1489	1960
STOCKTON	324	1839	2129
COLORADO			
ALAMOSA	1155	6702	6230
COLORADO SPRINGS	837	4660	4584
DENVER	749	4178	4290
GRAND JUNCTION	775	4426	4310
PUEBLO	747	4360	4038
CONNECTICUT			
BRIDGEPORT	940	4388	3874
HARTFORD	1038	5104	4670
DELAWARE			
WILMINGTON	884	4461	3706
DIST.OF COLUMBIA			
WASHINGTON DULLES	838	4550	3798
WASHINGTON NATIONAL	729	3826	3257
FLORIDA			
APPALACHICOLA U	409	1830	1156
DAYTONA BEACH	273	1105	760
FORT MYERS	132	601	409
JACKSONVILLE	414	1847	1127
KEY WEST	20	95	59
LAKELAND U	193	907	586
MIAMI	62	268	189
ORLANDO	218	977	626
PENSACOLA	364	2089	1330
TALLAHASSEE	434	1998	1342
TAMPA	214	977	619
WEST PALM BEACH	93	396	274
GEORGIA			
ATHENS	604	3151	2401
ATLANTA	640	3419	2481
AUGUSTA	565	2787	2101
COLUMBUS	501	2660	1960
MACON	506	2584	1870
ROME	643	3444	2692
SAVANNAH	437	2245	1633
IDAHO			
BOISE	868	4652	4263
LEWISTON	653	3679	4022
POCATELLO	1043	5198	5080
ILLINOIS			
CAIRO U	716	3964	3070
CHICAGO O HARE	1060	5770	4818
CHICAGO MIDWAY	1058	5716	4566
MOLINE	1059	5952	4847
PEORIA	1061	5817	4626
ROCKFORD	1158	6441	5115
SPRINGFIELD	989	5431	4257
INDIANA			
EVANSVILLE	867	4641	3613
FORT WAYNE	1108	5763	4615
INDIANAPOLIS	1025	5455	4236
SOUTH BEND	1063	5625	4754
IOWA			
BURLINGTON	1020	5703	4674
DES MOINES	981	5582	5069
DUBUQUE	1155	6532	5439
SIOUX CITY	1019	5959	5271
WATERLOO	1162	6806	5580
KANSAS			
CONCORDIA	769	4622	4267
DODGE CITY	645	4063	3828
GOODLAND	776	4654	4469
TOPEKA	767	4827	4038
WICHITA	646	4106	3644
KENTUCKY			
COVINGTON	980	5244	3860
LEXINGTON	836	4715	3640
LOUISVILLE	780	4376	3588
LOUISIANA			
ALEXANDRIA	362	2357	1832
BATON ROUGE	331	2046	1429
LAKE CHARLES	300	1903	1272
NEW ORLEANS	318	1888	1248
SHREVEPORT	399	2494	1806
MAINE			
CARIBOU	1453	7635	6856
PORTLAND	1199	6027	5313
MARYLAND			
BALTIMORE	790	4214	3591
MASSACHUSETTS			
BLUE HILL OBS R	1045	5257	4525
BOSTON	956	4501	4050
WORCESTER	1115	5685	4918
MICHIGAN			
ALPENA	1270	6574	5963
DETROIT	1040	5239	4539
DETROIT METRO	1106	5683	4699
FLINT	1186	6029	5093
GRAND RAPIDS	1177	6015	4943
HOUGHTON LAKE	1315	6844	5958
LANSING	1164	6163	5026
MARQUETTE U	1253	6649	5803
MUSKEGON	1200	5931	4918
SAULT STE MARIE	1420	7308	6422
MINNESOTA			
DULUTH	1334	7819	6999
INTERNATIONAL FALLS	1461	8506	7737
MINNEAPOLIS	1180	6665	6088
ROCHESTER	1208	7151	6089
ST CLOUD	1283	7464	6584
MISSISSIPPI			
JACKSON	435	2687	1907
MERIDIAN	487	2859	1990
MISSOURI			
COLUMBIA REGIONAL	891	5075	3906
KANSAS CITY	832	4846	3979
ST JOSEPH	839	4942	4204
ST LOUIS	839	4817	3683
SPRINGFIELD	752	4401	3531
MONTANA			
BILLINGS	759	4843	5185
GLASGOW	1074	6465	6574
GREAT FALLS	715	4669	5405
HAVRE	860	5616	6385
HELENA	862	5253	5860
KALISPELL	949	5653	6108
MILES CITY	923	5743	5814
MISSOULA	918	5568	5717
NEBRASKA			
GRAND ISLAND	861	5051	4825
LINCOLN	927	5400	4727
NORFOLK	951	5576	5243
NORTH PLATTE	920	5373	4966
OMAHA	883	5276	4625
SCOTTSBLUFF	789	4735	4887
VALENTINE	952	5745	5330
NEVADA			
ELKO	816	4842	5312
ELY	959	5334	5394
LAS VEGAS	297	1710	2141
RENO	695	4095	4237
WINNEMUCCA	734	4300	4675
NEW HAMPSHIRE			
CONCORD	1242	6393	5349
MT WASHINGTON OBS	1670	10464	9402
NEW JERSEY			
ATLANTIC CITY	895	4637	3666
ATLANTIC CITY U	816	4108	3331
NEWARK	895	4549	3736
TRENTON U	845	4406	3690
NEW MEXICO			
ALBUQUERQUE	675	3872	3357
CLAYTON	696	4028	3803
ROSWELL	463	3019	3005
NEW YORK			
ALBANY	1127	5700	5073
BINGHAMTON	1137	6155	5236
BUFFALO	1123	5755	4925
NEW YORK U	877	4394	3583
NEW YORK KENNEDY	916	4476	3737
NEW YORK LA GUARDIA	883	4276	3609
ROCHESTER	1103	5534	4829
SYRACUSE	1086	5582	4819
NORTH CAROLINA			
ASHEVILLE	768	4096	3252
CAPE HATTERAS R	575	2625	2038
CHARLOTTE	636	3435	2578
GREENSBORO	723	3844	3019
RALEIGH	715	3732	2784
WILMINGTON	541	2636	1975
NORTH DAKOTA			
BISMARCK	1147	6849	6686
FARGO	1327	7527	6894
WILLISTON	1112	6878	6754
OHIO			
AKRON	1057	5739	4572
CINCINNATI ABBE OB	918	4838	3720
CLEVELAND	1113	5697	4473
COLUMBUS	1071	5577	4295
DAYTON U	1042	5451	4243
MANSFIELD	1155	6128	4309
TOLEDO	1135	6004	4717
YOUNGSTOWN	1119	5945	4686
OKLAHOMA			
OKLAHOMA CITY	529	3391	2947
TULSA	511	3523	2948
OREGON			
ASTORIA	504	3152	3491
BURNS U	825	4879	5085
EUGENE	567	3172	3284
MEDFORD	581	3618	3516
PENDLETON	653	3841	3870
PORTLAND	564	3206	3370
SALEM	569	3382	3354
SEXTON SUMMIT R	592	3194	4148
PENNSYLVANIA			
ALLENTOWN	950	4935	4329
ERIE	1116	5677	4834
HARRISBURG	966	4682	3982
PHILADELPHIA	873	4506	3660
PITTSBURGH	1060	5756	4418
PITTSBURGH U	953	5159	3962
SCRANTON	1058	5442	4636
WILLIAMSPORT	1008	5222	4454
RHODE ISLAND			
BLOCK ISLAND	1014	4679	3880
PROVIDENCE	983	5019	4275
SOUTH CAROLINA			
CHARLESTON	516	2402	1772
CHARLESTON U	441	2441	1570
COLUMBIA	525	2802	2143
GRNVLLE-SPRTNBRG	626	3369	2540
SOUTH DAKOTA			
ABERDEEN	1135	6660	6425
HURON	1101	6533	6018
RAPID CITY	846	5377	5211
SIOUX FALLS	1097	6359	5862
TENNESSEE			
BRISTOL	845	4370	3334
CHATTANOOGA	679	3594	2806
KNOXVILLE	658	3659	2774
MEMPHIS	547	3123	2617
NASHVILLE	679	3899	2951
OAK RIDGE	788	4153	3096
TEXAS			
ABILENE	393	2846	2141
AMARILLO	592	3826	3216
AUSTIN	308	2105	1470
BROWNSVILLE	123	896	561
CORPUS CHRISTI	192	1270	810
DALLAS FT WORTH	431	2649	1959
DEL RIO	269	1793	1344
EL PASO	492	2646	2261
GALVESTON	274	1619	1017
HOUSTON INTERCON	312	2054	1222
LUBBOCK	520	3247	2818
MIDLAND	409	2574	2174
PORT ARTHUR	258	1857	1283
SAN ANGELO	377	2470	1879
SAN ANTONIO	336	1982	1345
VICTORIA	246	1665	1053
WACO	345	2419	1722
WICHITA FALLS	459	3037	2370
UTAH			
MILFORD	899	4739	4688
SALT LAKE CITY	813	4249	4397
VERMONT			
BURLINGTON	1240	6362	5709
VIRGINIA			
LYNCHBURG	783	4149	3283
NORFOLK	657	3298	2677
RICHMOND	680	3784	3080
ROANOKE	786	4243	3312
WALLOPS ISLAND	819	3856	3139
WASHINGTON			
OLYMPIA	547	3774	3812
QUILLAYUTE	554	3591	3937
SEATTLE	483	2935	3282
SEATTLE-TACOMA	451	2836	3568
SPOKANE	832	4837	4944
STAMPEDE PASS R	910	5611	6277
WALLA WALLA U	602	3736	3640
YAKIMA	730	4440	4492
WEST VIRGINIA			
BECKLEY	978	5272	4175
CHARLESTON	888	4749	3538
ELKINS	1021	5480	4405
HUNTINGTON	829	4531	3556
PARKERSBURG U	916	4860	3684
WISCONSIN			
GREEN BAY	1254	7034	5905
LA CROSSE	1200	6657	5581
MADISON	1188	6726	5691
MILWAUKEE	1152	6202	5355
WYOMING			
CASPER	949	5250	5297
CHEYENNE	894	5147	5001
LANDER	940	5463	5632
SHERIDAN	926	5452	5469

COOLING DEGREE DAYS

(Base 65° F.)

FEBRUARY 1977

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	5	5	19
HUNTSVILLE	1	1	6
MOBILE	4	4	52
MONTGOMERY	0	0	30
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	0	0
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES		0	0
BIG DELTA	0	0	0
COLD BAY	0	0	0
FAIRBANKS	0	0	0
GULKANA	0	0	0
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	0	0
MC GRATH	0	0	0
NOME	0	0	0
ST. PAUL ISLAND		0	0
TALKEETNA	0	0	0
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	0	0
PHOENIX	36	36	14
TUCSON	0	0	11
WINSLOW	0	0	0
YUMA	36	36	46
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	0
CALIFORNIA			
BAKERSFIELD	10	10	0
BISHOP	0	0	0
BLUE CANYON	0	0	0
EUREKA U	0	0	0
FRESNO	0	0	0
LONG BEACH	4	10	7
LOS ANGELES	13	16	12
LOS ANGELES U	39	46	24
MT SHASTA R	0	0	0
OAKLAND	0	0	0
RED BLUFF	3	3	0
SACRAMENTO	0	0	0
SANDBERG R	0	0	0
SAN DIEGO	9	14	10
SAN FRANCISCO	0	0	0
SAN FRANCISCO U	0	0	0
SANTA MARIA	0	0	0
STOCKTON	0	0	0
COLORADO			
ALAMOSA	0	0	0
COLORADO SPRINGS	0	0	0
DENVER	0	0	0
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	0	0	0
HARTFORD	0	0	0
DELAWARE			
WILMINGTON	0	0	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	0	0	0
WASHINGTON NATIONAL	0	0	0
FLORIDA			
APPALACHICOLA U	0	0	50
DAYTONA BEACH	12	16	96
FORT MYERS	25	32	197
JACKSONVILLE	1	1	63
KEY WEST	112	213	403
LAKELAND U	14	16	147
MIAMI	97	147	266
ORLANDO	13	14	138
PENSACOLA	2	2	64
TALLAHASSEE	0	0	61
TAMPA	9	11	147
WEST PALM BEACH	62	87	220
GEORGIA			
ATHENS	0	0	0
ATLANTA	0	0	0
AUGUSTA	0	0	14
COLUMBUS	0	0	22
MACON	0	0	24
ROME	0	0	0
SAVANNAH	1	1	33
HAWAII			
HILO	260	540	362
HONOLULU	305	581	430
KAHULUI	244	460	395
LIHUE	224	479	372
IDAHO			
BOISE	0	0	0
LEWISTON	0	0	0
POCATELLO	0	0	0
ILLINOIS			
CAIRO U	0	0	0
CHICAGO O HARE	0	0	0
CHICAGO MIDWAY	0	0	0
MOLINE	0	0	0
PEORIA	0	0	0
ROCKFORD	0	0	0
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	0	0	0
FORT WAYNE	0	0	0
INDIANAPOLIS	0	0	0
SOUTH BEND	0	0	0
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	0
DUBUQUE	0	0	0
SIOUX CITY	0	0	0
WATERLOO	0	0	0
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	0	0	0
GOODLAND	0	0	0
TOPEKA	0	0	0
WICHITA	0	0	0
KENTUCKY			
COVINGTON	0	0	0
LEXINGTON	0	0	0
LOUISVILLE	0	0	0
LOUISIANA			
ALEXANDRIA	5	5	24
BATON ROUGE	4	4	41
LAKE CHARLES	4	4	50
NEW ORLEANS	10	10	63
SHREVEPORT	7	7	10
MAINE			
CARIBOU	0	0	0
PORTLAND	0	0	0
MARYLAND			
BALTIMORE	0	0	0
MASSACHUSETTS			
BLUE HILL OBS R	0	0	0
BOSTON	0	0	0
WORCESTER	0	0	0
MICHIGAN			
ALPENA	0	0	0
DETROIT	0	0	0
DETROIT METRO	0	0	0
FLINT	0	0	0
GRAND RAPIDS	0	0	0
HOUGHTON LAKE	0	0	0
LANSING	0	0	0
MARQUETTE U	0	0	0
MUSKEGON	0	0	0
SAULT STE MARIE	0	0	0
MINNESOTA			
DULUTH	0	0	0
INTERNATIONAL FALLS	0	0	0
MINNEAPOLIS	0	0	0
ROCHESTER	0	0	0
ST CLOUD	0	0	0
MISSISSIPPI			
JACKSON	3	3	31
MERIDIAN	0	0	31
MISSOURI			
COLUMBIA REGIONAL	0	0	0
KANSAS CITY	0	0	0
ST JOSEPH	0	0	0
ST LOUIS	0	0	0
SPRINGFIELD	0	0	0
MONTANA			
BILLINGS	0	0	0
GLASGOW	0	0	0
GREAT FALLS	0	0	0
HAVRE	0	0	0
HELENA	0	0	0
KALISPELL	0	0	0
MILES CITY	0	0	0
MISSOULA	0	0	0
NEBRASKA			
GRAND ISLAND	0	0	0
LINCOLN	0	0	0
NORFOLK	0	0	0
NORTH PLATTE	0	0	0
OMAHA	0	0	0
SCOTTSBLUFF	0	0	0
VALENTINE	0	0	0
NEVADA			
ELKO	0	0	0
ELY	0	0	0
LAS VEGAS	0	0	6
RENO	0	0	0
WINNEMUCCA	0	0	0
NEW HAMPSHIRE			
CONCORD	0	0	0
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	0	0	0
ATLANTIC CITY U	0	0	0
NEWARK	0	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	0	0	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	0	0	0
BINGHAMTON	0	0	0
BUFFALO	0	0	0
NEW YORK U	0	0	0
NEW YORK KENNEDY	0	0	0
NEW YORK LA GUARDIA	0	0	0
ROCHESTER	0	0	0
SYRACUSE	0	0	0
NORTH CAROLINA			
ASHEVILLE	0	0	0
CAPE HATTERAS R	1	1	0
CHARLOTTE	2	2	0
GREENSBORO	2	2	0
RALEIGH	2	2	0
WILMINGTON	4	4	9
NORTH DAKOTA			
BISMARCK	0	0	0
FARGO	0	0	0
WILLISTON	0	0	0
OHIO			
AKRON	0	0	0
CINCINNATI ABBE OB	0	0	0
CLEVELAND	0	0	0
COLUMBUS	0	0	0
DAYTON U	0	0	0
MANSFIELD	0	0	0
TOLEDO	0	0	0
YOUNGSTOWN	0	0	0
OKLAHOMA			
OKLAHOMA CITY	1	1	0
TULSA	1	1	0
OREGON			
ASTORIA	0	0	0
BURNS U	0	0	0
EUGENE	0	0	0
MEDFORD	0	0	0
PENDLETON	0	0	0
PORTLAND	0	0	0
SALEM	0	0	0
SEXTON SUMMIT R	0	0	0
PACIFIC AREA			
GUAM TAGUAC R	341	704	725
JOHNSTON	366	750	688
KOROR R	460	976	942
KWAJALEIN	491	998	961
MAJURO	464	942	944
PAGO PAGO	491	1022	908
PONAPE R	498	1002	924
TRUK MOEN ISLAND	471	986	947
WAKE	341	700	708
YAP R	440	914	911
PENNSYLVANIA			
ALLENTOWN	0	0	0
ERIE	0	0	0
HARRISBURG	0	0	0
PHILADELPHIA	0	0	0
PITTSBURGH	0	0	0
SCRANTON	0	0	0
WILLIAMSPORT	0	0	0
RHODE ISLAND			
BLOCK ISLAND	0	0	0
PROVIDENCE	0	0	0
SOUTH CAROLINA			
CHARLESTON	1	1	25
CHARLESTON U	1	1	31
COLUMBIA	3	3	5
GRNVLLE-SPRTNBRG	0	0	0
SOUTH DAKOTA			
ABERDEEN	0	0	0
HURON	0	0	0
RAPID CITY	0	0	0
SIOUX FALLS	0	0	0
TENNESSEE			
BRISTOL	0	0	0
CHATTANOOGA	0	0	6
KNOXVILLE	5	5	8
MEMPHIS	0	0	0
NASHVILLE	0	0	0
OAK RIDGE	0	0	0
TEXAS			
ABILENE	4	4	0
AMARILLO	0	0	0
AUSTIN	7	7	24
BROWNSVILLE	44	59	185
CORPUS CHRISTI	18	22	82
DALLAS FT WORTH	0	0	0
DEL RIO	7	7	30
EL PASO	0	0	0
GALVESTON	4	4	47
HOUSTON INTERCON	5	5	38
LUBBOCK	0	0	0
MIDLAND	0	0	0
PORT ARTHUR	4	4	42
SAN ANGELO	6	6	0
SAN ANTONIO	3	3	24
VICTORIA	8	12	44
WACO	7	7	6
WICHITA FALLS	2	2	0
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	0	0	0
VERMONT			
BURLINGTON	0	0	0
VIRGINIA			
LYNCHBURG	0	0	0
NORFOLK	4	4	0
RICHMOND	0	0	0
ROANOKE	0	0	0
WALLOPS ISLAND	0	0	0
WASHINGTON			
OLYMPIA	0	0	0
QUILLAYUTE	0	0	0
SEATTLE	0	0	0
SEATTLE-TACOMA	0	0	0
SPOKANE	0	0	0
STAMPEDE PASS R	0	0	0
WALLA WALLA U	0	0	10
YAKIMA	0	0	0
WEST INDIES			
SAN JUAN P.R.	360	742	610
WEST VIRGINIA			
BECKLEY	0	0	0
CHARLESTON	0	0	0
ELKINS	0	0	0
HUNTINGTON	0	0	0
PARKERSBURG U	0	0	0
WISCONSIN			
GREEN BAY	0	0	0
LA CROSSE	0	0	0
MADISON	0	0	0
MILWAUKEE	0	0	0
WYOMING			
CASPER	0	0	0
CHEYENNE	0	0	0
LANDER	0	0	0
SHERIDAN	0	0	0

STORM SUMMARY

FEBRUARY 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ϕ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS
Alabama	1	1			5						1	3											3	3					
Alaska												5																	
Arizona											2	5																	
Arkansas	1	1		1	5							5																	
California *																													
Colorado										2	1	6	7																
Connecticut *																													
Delaware *																													
Florida	3	2			5							4				4													
Georgia	1	1			5							6																	
Hawaii *																													
Idaho *																													
Illinois												3																	
Indiana *																													
Iowa	1	1		1	5																								
Kansas												5	5																
Kentucky *																													
Louisiana *																													
Maine																				5									
Maryland & DC												4																	
Massachusetts *																													
Michigan																												5	
Minnesota																							1	6					
Mississippi	5	1	2	6	5			2	2	1		5	2			2	2											2	2
Missouri	1	1			5					1	4	5																	
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire																				5									
New Jersey																										2	2	2	2
New Mexico											5	4	2																
New York																											2	5	2
North Carolina	1	1			4																					1		8	6
North Dakota *																													
Ohio *																													
Oklahoma	1	1		4	5			1			2	5																	
Oregon *																													
Pacific *																													
Pennsylvania										1		4	2							1								4	
Puerto Rico *																													
Rhode Island *																													
South Carolina	2	1			4						2	4	2																
South Dakota																				2				2					
Tennessee *																													
Texas											24	6	2																
Utah *																													
Vermont *																													
Virginia											1	3																	
Virgin Islands *																													
Washington *																													
West Virginia																										1			
Wisconsin																							2	5					
Wyoming *																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1977

Herbert J. Thompson, Office of Hydrology

For the fourth consecutive month no major flooding occurred over the country. However, a moderation of the severe cold of December and January melted snow cover and broke up heavy river ice in the more northern areas. Numerous ice jams occurred with some local flooding from backwater. Heavy rains added to the problems in the Northeast with extensive urban flooding reported in southern New England. Other areas affected by ice jams were the upper Ohio River Basin, the lower Missouri River, the upper Mississippi Basin in Iowa, Wisconsin, and Illinois, and the Portneuf River in Idaho.

Moderate flooding occurred on the upper Sabine and and Trinity Rivers, the lower Guadelupe River, and the Sulphur River in Texas. Minor flooding was reported in the Tombigbee Basin in Alabama, the Wabash Basin in Indiana, and on the several West Gulf Drainage streams.

Severe soil moisture deficiencies continued in the Far West, portions of the Great Plains States, and Puerto Rico. A record low stage was reached by the Mississippi River at Memphis, TN.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
A warming trend with significant rainfall caused melting of heavy snow cover in southern Michigan. The Kalamazoo River crested just below flood stage at Fennville, MI. In Ohio stream ice broke up with numerous ice jams formed. Some flooding of agricultural land was reported and a few houses were flooded along the Chagrin River. In the Buffalo, NY, area localized flooding from ice jams occurred on Buffalo Creek, and a large ice jam posed a threat on Cattaraugus Creek. The Corps of Engineers allocated $2 million to temporary flood control projects in the Buffalo area.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
Rains of up to 3 inches on the 24th-25th combined with snowmelt to cause strong rises on streams in portions of Connecticut and Massachusetts, the lower Hudson, Susquehanna, and Delaware River Basins, and in northern New Jersey. Extensive urban flooding affecting streets and basements occurred in southwestern Connecticut, and northeastern Massachusetts. The Saddle River crested 4 feet over flood stage at Lodi, NJ, and minor flooding occurred along Wappingers Creek in southern New York and on the Ramapo and Millstone Rivers in New Jersey. Several other northern New Jersey streams crested just short of flood stage. River ice broke up and most streams in the area were free of ice at the end of the month. In the southern portion of the drainage, lowland flooding on the lower Savannah River ended at Clyo, GA, on the 2d after more than two months over flood stage.	0	N.A.
EAST GULF OF MEXICO DRAINAGE		
Flooding ended on the 1st on the Santa Fe River. Damage estimates were included in the January report. Minor lowland flooding was reported on the lower Alabama River and on the Cahaba River, although no reporting stations exceeded flood stage. Minor flooding also occurred on the lower Tombigbee River, which continued into March. This flooding resulted from rains of up to 3.5 inches the last week in the month. On the lower Pearl River flooding ended	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimates of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Cont'd		
on the 1st at Bogalusa and Pearl River, LA, but resumed late in the month at Bogalusa and continued into March.		
UPPER MISSISSIPPI BASIN		
Precipitation was above normal over portions of Minnesota, Wisconsin, and Illinois. An area of southwest Minnesota to south central Wisconsin, severely affected by drought the latter half of 1976, received significant rainfall of up to 2 inches. Warmer temperatures the last week of February melted snow cover and broke up river ice over the southern half of the basin. Ice jams occurred on smaller tributaries with minor backwater flooding reported on the upper Pecatonica River in Wisconsin and the Little Maquoketa River just north of Dubuque, IA. The severe ice jam on the Mississippi River between Chester and Cairo, IL, went out on the 12th as a result of warmer temperature and ice breaking by tugs. This ice jam had halted navigation for several weeks.	0	N.A.
MISSOURI RIVER BASIN		
Precipitation was generally well below normal. Ice jams on the lower Missouri caused flooding of lowlands in Iowa and Nebraska from 5 miles south of Plattsmouth to 7 miles north of Nebraska City and around the mouth of the Nishnabatna River. About 5,500 acres were affected. Lowering the discharge at Gavins Point Dam on the 14th prevented more serious flooding. The last of these ice jams went out on the 21st. Two periods of minor flooding from ice jams occurred around St. Joseph, MO, during the month.	0	N.A.
In Kansas flow of all rivers was below normal and record low pool elevations occurred at Kirwin and Cedar Bluff Reservoirs. At the end of the month the pool elevation of Cedar Bluff Reservoir was nearly 4 feet below the previous low elevation in March 1955.		
OHIO RIVER BASIN		
The heavy river ice caused by the extreme cold of December and January began breaking up about February 12 as warmer temperatures and light rain moved into the basin. Numerous ice jams formed on smaller streams, and backwater from an ice jam on the Marsh Fork of the Big Coal River in Raleigh County, WV, flooded several homes and caused evacuation of their residents. Minor local flooding from ice jams occurred on the Licking and Salt Rivers in Kentucky. On the 24th warmer temperatures and about .5 inch of rain greatly increased snowmelt. Flooding was reported at Bartow on the Greenbrier River and on the Tygart River in West Virginia. The Monongahela and Ohio Rivers crested less than a foot below flood stage at Braddock Lock, PA, and Wellsburg, WV, respectively. Problems were reported at Sinnemahoning, Lawrenceville, Saegarstown, and New Bethlehem, PA.	0	N.A.
In the Wabash Basin in Indiana snow cover with water contents of up to 2.5 inches melted gradually during the month with the unusually dry ground absorbing the melt. Rain and snow on the 26th caused minor lowland flooding on the lower White River and upper Little Wabash with crests less than a foot over flood stage. Precipitation amounts of up to nearly 3 inches were reported on the 26th.		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FEBRUARY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimates of Property Damage (thousands of dollars)
ARKANSAS - WHITE - RED BASINS		
Soil moisture continued deficient over much of the Arkansas Basin. Major reservoirs in Oklahoma generally showed slight increases in storage but pool elevations remained at critically low levels at the end of February. Minor flooding from rains of 1 to 2 inches occurred on the Cache River at Patterson, AR, the middle of the month. The Sulphur River in the Red Basin received an average of 2.5 inches for February, most of which fell early in the month and caused 2 to 3 feet of flooding at Hagansport, TX. Downstream at Naples, TX, a crest nearly 6 feet over flood stage occurred. Lumbering operations were curtailed and bridges were threatened by debris necessitating relief measures.	0	N.A.
LOWER MISSISSIPPI BASIN		
For the sixth straight month low river stages on the Mississippi plagued river interests. A record low stage of minus 6.0 feet occurred at Memphis, TN during the month. The previous record low there occurred the preceding September at minus 5.7 feet. The previous record low for February was minus 1.3 feet in 1956.		
WEST GULF OF MEXICO DRAINAGE		
Moderate flooding occurred along the upper Sabine River from Emory down to Longview, TX, in response to rains of 3 to 4 inches over the basin. Crests were in the range of 3 to 7 feet over flood stage. Maximum flooding occurred at Gladewater, TX, and most of the damage also due to levee construction in the area.	0	N.A.
Moderate flooding occurred on the upper Trinity River in the Trinidad to Long Lake, TX, reach. The crest at Trinidad was more than 10 feet over flood stage with losses of $50,000 reported by the cattle industry in this area. Minor flooding occurred on headwater streams and on the lower Trinity from Liberty to Moss Bluff. Rains of 3 to 5 inches fell over the upper Trinity Basin the 11th-12th.	0	50
Elsewhere in the West Gulf Drainage moderate flooding occurred on the lower Guadalupe River with a crest more than 6 feet over flood stage at Dupont, TX, where flooding had continued from late January. Two to three feet of flooding was reported on the Navasota and Angelina Rivers, Attoyac Bayou, the Neches River from near Alto to near Diboll, TX, and on the upper Calcasieu River near Hineston, LA.	0	N.A.

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From–	Above flood stages —dates To–	Crest Stage	Crest Date
	Ft			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Ontario					
Buffalo Creek:					
[illegible], NY	[illegible]	[illegible]	15	[illegible]	14
		16	18	E 7.4	[illegible]
		24	1/	10.47	25
ATLANTIC SLOPE DRAINAGE					
Wappingers Creek:					
Clinton Corners, NY	[illegible]	[illegible]	25	10.09	25
Wappingers Falls, NY	[illegible]	25	26	[illegible]	25
Ramapo:					
Mahwah, NJ	8	24	25	8.90	25
Saddle:					
Lodi, NJ	[illegible]	24	25	8.96	25
Millstone:					
Blackwells Mills, NJ	7	25	26	8.60	25
Savannah:					
Clyo, GA	11	Nov 29	2	15.9	Dec 22
EAST GULF OF MEXICO DRAINAGE					
Santa Fe:					
Highway 48 Bridge, FL	17	[illegible]	1	A18.54	Jan 19
Tombigbee:					
Coffeeville Lock and Dam, AL	[illegible]	[illegible]	1/	44.5	Mar 1
Pearl:					
Bogalusa, LA	[illegible]	Jan	1	#19.33	Jan 17
		26	1/	#19.9	Mar 13-15
Pearl River, LA	[illegible]	Jan [illegible]	1	14.89	Jan 19
UPPER MISSISSIPPI BASIN					
Pecatonica River:					
Darlington, WI	11	24	25	11.8	24
Martintown, WI	11	26	Mar 1	12.4	28
MISSOURI RIVER BASIN					
Missouri River:					
St. Joseph, MO	17	14	20	#18.2	16-18
		22	23	17.1	22
OHIO RIVER BASIN					
Tygart:					
Belington, WV	10	[illegible]	25	11.09	25
Elkins, WV	17	[illegible]	25	17.40	25
White:					
Spencer, IN	[illegible]	28	28	14.4	28
Elliston, IN	[illegible]	[illegible]	Mar 1	18.8	Mar 1
Edwardsport, IN	[illegible]	28	1/	15.8	Mar 1
Little Wabash:					
Wilcox, IL	[illegible]	27	Mar [illegible]	16.5	28
WHITE BASIN					
Cache:					
Patterson, AR		14	16	7.2	15
RED BASIN					
Sulphur:					
Hagansport, TX	[illegible]	[illegible]	5	[illegible]	[illegible]
		12	15	46.74	12
Naples, TX	[illegible]	[illegible]	[illegible]	27.80	16
WEST GULF OF MEXICO DRAINAGE					
Calcasieu:					
Hineston, LA	[illegible]	[illegible]	1	14.79	8
WEST GULF OF MEXICO DRAINAGE-Cont'd					
Lake Fork:					
Quitman, TX (near)	16	12	15	17.60	13
Sabine:					
Emory, TX	12	11	17	15.25	12
Mineola, TX	14	11	26	18.67	14
Gladewater, TX	26	12	28	33.14	20
Longview, TX	25	13	1/	29.51	24
Attoyac Bayou:					
Chireno, TX	14	12	19	15.94	16
Angelina:					
Lufkin, TX	8	11	1/	11.38	22
Neches:					
Alto, TX (near)	16	12	1/	17.95	20
Diboll, TX (near)	10	7	1/	13.32	27
East Fork Trinity:					
Crandall, TX	13	11	14	13.84	12
Chambers Creek:					
Corsicana, TX (near)	20	11	13	24.04	12
Richland Creek:					
Richland, TX (near)	20	11	13	21.75	12
Trinity:					
Rosser, TX	26	2	13	26.19	12
Trinidad, TX	28	11	17	38.42	13
Long Lake, TX	35	15	22	41.87	18
Liberty, TX	24	16	26	#25.0	23,24
Moss Bluff, TX	4	11	28	# 7.4	24-26
Navasota:					
Easterly, TX (near)	14	11	17	17.3	13
Bryan, TX (near)	12	4	21	14.4	15
Guadalupe:					
Cuero USGS, TX	20	13	16	21.6	15
Victoria, TX	21	12	17	25.30	15
Dupont, TX	20	Jan 23	27	#A26.3	16,17
PACIFIC SLOPE DRAINAGE					
Portneuf:					
Pocatello, ID	8	1	2	#10.66	2

A See Previous Months Report for Additional Crest Information.

RAWINSONDE DATA

Average monthly values

ALBANY, NY 1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	86	-5.6	-10.1	27	1.5
1000	20	144	-5.[illegible]	-11.4	27	2.0
950	28	510	-6.4	-10.4	27	5.7
900	28	931	-8.6	-11.4	28	8.8
850	28	1,373	-9.7	-12.5	28	11.9
800	28	1,841	-10.5	-15.9	29	13.8
750	28	2,336	-12.4	-18.1	28	15.5
700	28	2,861	-14.8	-21.5	28	17.4
650	28	3,420	-16.8	-27.2	27	18.8
600	28	4,018	-19.9	-30.0	27	19.6
550	28	4,658	-23.9	-33.1	26	21.3
500	28	5,348	-28.3	-38.5	26	24.1
450	28	6,096	-33.3	-42.5	26	26.1
400	28	6,914	-39.0	-43.9	26	27.5
350	28	7,821	-44.7	-47.5	26	28.5
300	28	8,837	-50.1		26	30.3
250	27	10,018	-52.9		26	30.9
200	27	11,456	-52.9		27	33.0
175	27	12,319	-52.0		27	28.1
150	27	13,317	-52.2		26	27.0
125	27	14,492	-54.4		26	25.8
100	27	15,913	-57.4		27	23.8
80	27	17,318	-58.8		26	21.1
70	26	18,152	-58.9		26	19.3
60	26	19,121	-58.4		26	19.1
50	26	20,268	-58.8		27	16.8
40	25	21,672	-59.1		27	16.3
30	24	23,490	-57.9		26	15.1
25	24	24,642	-57.1		26	17.5
20	22	26,061	-55.6		26	20.5
15	19	27,907	-52.3		26	27.0
10	16	30,567	-46.2		25	43.2
7	6	32,976	-42.[illegible]			

ALBUQUERQUE, NM 839 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	1,619	.3	-8.0	03	1.1
1000						
950						
900						
850						
800	28	2,001	1.7	-9.7	32	2.9
750	28	2,519	-1.1	-12.5	31	6.0
700	28	3,067	-3.9	-15.5	31	8.4
650	28	3,648	-7.5	-19.5	31	[illegible].5
600	28	4,267	-11.5	-25.0	30	10.0
550	28	4,928	-16.0	-28.6	31	11.3
500	28	5,639	-21.0	-32.6	31	12.6
450	28	6,409	-26.5	-37.0	30	14.6
400	28	7,249	-32.8	-42.9	30	15.4
350	28	8,178	-39.7	-48.6	30	15.9
300	28	9,213	-46.9		30	16.6
250	28	10,402	-53.7		29	21.3
200	28	11,825	-56.5		29	26.4
175	28	12,673	-56.1		29	26.5
150	28	13,652	-57.0		29	25.7
125	28	14,798	-60.4		29	24.2
100	28	16,176	-63.8		28	19.[illegible]
80	28	17,537	-65.7		28	14.9
70	28	18,350	-65.4		29	10.[illegible]
60	27	19,289	-64.2		29	8.2
50	27	20,407	-63.0		29	6.0
40	27	21,786	-61.8		29	4.8
30	25	23,579	-59.7		29	6.7
25	24	24,729	-57.6		28	8.9
20	23	26,149	-54.6		27	13.1
15	20	27,996	-52.3		27	19.4
10	8	30,649	-46.7			
7						

AMARILLO, TX 891 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	1,095	1.4	-5.3	27	2.7
1000						
950						
900						
850	28	1,481	5.1	-7.8	29	4.8
800	28	1,974	2.5	-11.0	31	5.4
750	28	2,493	-.5	-13.7	31	5.9
700	28	3,041	-3.9	-17.2	30	6.5
650	28	3,621	-7.8	-19.7	30	7.4
600	28	4,239	-12.0	-24.3	30	[illegible].0
550	28	4,899	-16.5	-28.0	30	10.4
500	28	5,609	-21.7	-33.6	30	11.8
450	28	6,376	-27.6	-39.1	30	12.7
400	28	7,212	-33.8	-44.8	29	15.0
350	28	8,138	-40.4	-47.2	28	15.9
300	28	9,170	-47.4		29	15.2
250	28	10,357	-53.9		29	19.1
200	28	11,777	-57.2		28	22.4
175	28	12,624	-56.4		28	25.1
150	28	13,602	-56.8		28	23.8
125	27	14,748	-60.1		28	25.0
100	27	16,130	-63.1		28	19.2
80	27	17,496	-65.0		28	15.7
70	27	18,310	-64.7		29	13.1
60	27	19,254	-63.9		29	11.0
50	26	20,374	-62.7		30	7.4
40	26	21,751	-62.3		29	6.1
30	22	23,542	-59.6		28	7.8
25	20	24,691	-56.7		27	11.2
20	19	26,114	-54.6		27	13.1
15	17	27,976	-51.6		27	19.4
10	11	30,641	-44.3			
7						

* ANCHORAGE, AK 993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	45	-.6	-4.[illegible]	05	.7
1000	5	64	-2.2	-7.9		
950	28	396	.5	-6.[illegible]	09	2.1
900	28	829	-1.2	-7.2	12	4.1
850	28	1,282	-4.6	-9.0	13	7.8
800	28	1,757	-8.0	-11.3	13	8.8
750	28	2,255	-11.2	-15.9	14	10.2
700	28	2,782	-14.6	-20.3	15	10.5
650	28	3,339	-18.2	-24.7	15	9.9
600	28	3,933	-22.1	-29.4	16	8.4
550	28	4,567	-26.5	-33.9	16	[illegible].2
500	28	5,249	-31.3	-38.4	16	9.2
450	27	5,988	-36.7	-41.7	17	9.3
400	27	6,793	-42.9	-44.2	18	10.1
350	27	7,683	-49.3		18	11.6
300	27	8,677	-55.3		18	13.[illegible]
250	27	9,834	-56.[illegible]		19	13.5
200	27	11,266	-52.1		19	12.4
175	27	12,133	-50.8		20	11.0
150	27	13,139	-49.9		19	11.1
125	27	14,331	-50.4		20	10.5
100	27	15,786	-50.8		20	9.9
80	27	17,237	-51.4		21	7.7
70	27	18,105	-51.5		22	7.4
60	27	19,104	-52.0		22	7.2
50	26	20,283	-52.2		23	6.7
40	26	21,723	-53.7		25	5.9
30	23	23,555	-55.1		28	6.1
25	20	24,733	-54.8		28	6.6
20	16	26,193	-53.5		30	7.4
15	9	28,145	-49.4			
10						
7						

* ANNETTE, AK [illegible] MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	37	6.0	2.5	1[illegible]	4.5
1000	23	115	5.6	2.1	[illegible]5	6.3
950	28	509	3.1	.5	16	9.9
900	28	945	.1	-2.0	17	13.2
850	28	1,46[illegible]	-2.3	-5.2	18	13.[illegible]
800	28	1,88[illegible]	-4.7	-9.0	1[illegible]	12.6
750	28	2,380	-7.9	-15.8	2[illegible]	12.7
700	28	2,919	-11.1	-21.0	21	13.2
650	28	3,4[illegible]5	-14.6	-23.2	21	12.9
600	28	4,[illegible]7	-18.5	-27.5	21	13.3
550	28	4,7[illegible]	-22.5	-30.0	21	14.7
500	28	5,4[illegible]4	-27.3	-34.[illegible]	22	16.3
450	28	6,[illegible]75	-32.6	-37.3	22	17.5
400	28	6,994	-38.8	-40.1	22	19.0
350	28	7,96[illegible]	-45.8	-41.4	22	20.2
300	28	8,9[illegible]8	-52.2		22	21.4
250	28	10,074	-56.4		22	20.6
200	28	11,467	-57.2		23	18.7
175	28	12,3[illegible]5	-55.2		23	17.1
150	28	13,324	-53.8		23	13.6
125	28	14,4[illegible]5	-54.0		24	13.5
100	28	15,922	-55.8		24	11.9
80	27	17,337	-56.2		25	9.4
70	27	18,185	-56.5		24	7.5
60	27	19,164	-56.3		25	7.9
50	26	20,323	-56.9		26	6.0
40	19	21,738	-57.1		29	5.4
30	17	23,559	-57.7		31	5.1
25	14	24,729	-57.0		32	6.2
20	11	26,2[illegible]	-54.1		34	5.9
15	8	28,055	-52.9			
10	6	30,759	-51.1			
7						

ATHENS, GA 989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	246	1.1	-5.2	27	1.3
1000						
950	28	573	4.4	-6.0	27	5.5
900	28	1,012	2.9	-8.9	27	7.7
850	28	1,474	1.3	-12.5	27	10.3
800	28	1,961	.0	-14.4	27	12.4
750	28	2,475	-2.3	-16.5	27	14.8
700	28	3,020	-5.1	-19.1	27	17.0
650	28	3,599	-8.0	-21.8	27	19.[illegible]
600	28	4,217	-11.5	-25.2	26	21.5
550	28	4,879	-15.3	-29.7	26	24.4
500	28	5,592	-20.3	-35.1	26	27.4
450	28	6,364	-25.6	-38.7	26	29.7
400	28	7,208	-31.8	-42.4	26	32.9
350	28	8,142	-38.3	-46.9	26	36.7
300	28	9,184	-45.1	-48.0	26	41.7
250	28	10,385	-51.5		26	47.9
200	28	11,820	-54.7		26	51.7
175	28	12,672	-55.8		26	49.5
150	28	13,648	-58.0		26	45.4
125	28	14,790	-61.1		26	39.7
100	28	16,163	-64.8		26	31.7
80	28	17,521	-65.3		26	22.[illegible]
70	28	18,335	-65.1		26	20.0
60	28	19,277	-63.8		26	17.3
50	27	20,403	-62.0		26	13.3
40	26	21,792	-59.8		26	12.7
30	26	23,604	-56.8		26	15.1
25	26	24,766	-54.5		26	16.6
20	26	26,206	-51.0		26	16.7
15	24	28,091	-47.5		26	18.5
10	19	30,801	-43.2		25	24.5

* BARROW, AK 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	26	8	-26.1	-29.3	06	4.5
1000	26	113	-25.7	-27.6	07	5.9
950	26	486	-23.0	-24.5	08	[illegible].0
900	26	885	-19.9	-22.9	08	7.5
850	26	1,312	-17.2	-20.9	08	6.4
800	26	1,767	-17.1	-22.4	09	4.6
750	26	2,250	-18.9	-24.0	09	2.6
700	26	2,762	-21.4	-26.8	09	1.1
650	26	3,305	-24.4	-30.8	28	.6
600	26	3,884	-27.8	-34.8	27	2.6
550	26	4,505	-31.5	-39.0	27	4.4
500	26	5,174	-35.9	-43.1	26	6.7
450	26	5,898	-40.8	-45.8	26	7.7
400	26	6,691	-45.9		25	10.2
350	26	7,572	-51.1		25	12.8
300	26	8,560	-55.9		24	14.1
250	26	9,719	-55.8			
200	26	11,150	-52.6			
175	26	12,014	-51.8			
150	26	13,015	-51.3			
125	25	14,196	-51.8			
100	24	15,645	-51.[illegible]			
80						
70						
60						
50						
40						
30						
25						
20						
15						
10						

BARTER ISLAND, AK 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	15	-27.1	-28.3	09	2.1
1000	25	112	-27.3	-30.0	08	2.7
950	28	471	-24.4	-25.1	10	5.2
900	28	871	-17.0	-20.0	10	5.1
850	28	1,302	-14.8	-19.0	11	3.0
800	28	1,761	-15.5	-21.8	19	1.4
750	28	2,247	-17.3	-24.8	22	2.4
700	28	2,762	-19.4	-26.6	25	4.1
650	28	3,310	-22.1	-29.3	25	5.3
600	28	3,895	-25.3	-32.9	26	7.0
550	28	4,522	-29.1	-36.5	26	8.6
500	28	5,197	-33.5	-38.8	26	10.[illegible]
450	27	5,937	-37.7	-42.2	25	12.0
400	27	6,739	-43.5	-44.2	25	13.3
350	27	7,628	-49.6		25	14.4
300	27	8,622	-55.1		25	14.5
250	27	9,780	-56.5		25	13.0
200	27	11,207	-53.0		25	12.4
175	27	12,071	-51.6		25	12.5
150	27	13,072	-51.4		26	11.5
125	27	14,257	-51.3		25	11.4
100	27	15,705	-52.1		26	12.3
80	27	17,147	-52.9		26	13.0
70	27	18,008	-53.6		27	13.0
60	27	18,998	-54.3		27	13.6
50	27	20,164	-55.3		28	14.4
40	26	21,577	-57.0		28	17.[illegible]
30	23	23,405	-57.8		29	19.4
25	18	24,610	-57.7		30	18.1
20	16	26,050	-57.4		30	19.1
15	9	28,058	-52.3			
10						

BETHEL, AK 988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	39	-8.8	-11.4	03	4.0
1000						
950	28	348	-2.7	-6.9	09	5.5
900	28	777	-3.4	-8.8	12	5.7
850	28	1,227	-6.1	-11.9	14	5.4
800	28	1,699	-8.7	-15.6	14	6.2
750	28	2,197	-11.8	-19.3	14	6.4
700	28	2,722	-15.2	-23.2	13	7.4
650	28	3,278	-18.8	-26.3	14	7.9
600	28	3,869	-22.8	-30.2	15	8.1
550	28	4,501	-27.4	-34.9	14	8.1
500	28	5,181	-32.4	-39.9	15	9.4
450	28	5,916	-37.8	-41.3	15	10.1
400	28	6,716	-43.9	-42.8	15	11.2
350	28	7,602	-50.7		15	12.4
300	28	8,590	-56.1		16	11.0
250	27	9,748	-55.9		16	9.8
200	27	11,186	-51.5		17	9.9
175	27	12,055	-50.2		17	8.9
150	27	13,064	-49.5		17	9.6
125	27	14,261	-48.6		18	8.9
100	27	15,727	-49.2		18	8.8
80	27	17,191	-49.3		19	8.0
70	27	18,066	-49.6		20	7.3
60	27	19,075	-50.1		19	6.6
50	26	20,266	-50.6		20	5.7
40	26	21,717	-51.2		21	4.1
30	26	23,588	-51.4		24	3.1
25	25	24,773	-51.7		26	3.1
20	21	26,257	-51.2		29	3.0
15	12	28,172	-49.6			
10						

* BISMARCK, ND 955 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	503	-6.2	-9.2	33	2.0
1000						
950	22	574	-6.2	-8.8	31	2.1
900	28	9[illegible]9	-3.6	-8.1	32	8.5
850	28	1,421	-3.8	-10.0	32	10.4
800	28	1,899	-5.1	-14.0	33	12.0
750	28	2,404	-7.5	-16.8	32	13.6
700	28	2,938	-10.5	-20.2	33	15.3
650	28	3,505	-13.6	-23.1	33	16.8
600	28	4,110	-17.3	-27.6	32	17.1
550	28	4,757	-21.2	-31.2	32	18.1
500	28	5,454	-26.2	-35.4	32	18.5
450	28	6,208	-31.5	-38.5	32	19.5
400	28	7,032	-37.2	-43.5	32	21.0
350	27	7,943	-43.8		33	21.6
300	27	8,959	-51.2		32	23.2
250	26	10,120	-56.5		32	23.5
200	25	11,530	-57.4		32	20.7
175	25	12,379	-55.0		31	20.1
150	25	13,367	-54.0		31	17.9
125	25	14,537	-54.9		31	16.7
100	25	15,957	-56.8		31	14.8
80	25	17,366	-58.1		31	12.3
70	24	18,208	-58.8		32	12.3
60	22	19,167	-59.3		32	11.6
50	22	20,307	-59.9		32	11.5
40	21	21,700	-60.6		32	9.3
30	20	23,485	-60.8		32	10.1
25	18	24,610	-60.9		31	10.1
20	16	25,997	-60.3		31	13.2
15	10	27,777	-60.0			
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BOISE, ID 922 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	871	-2.4	-5.6	13	1.4
1000						
950						
900	28	1,067	1.4	-4.7	15	.3
850	28	1,529	2.2	-7.4	29	2.6
800	28	2,017	.2	-10.2	29	4.6
750	28	2,531	-2.5	-12.7	30	5.7
700	28	3,076	-5.6	-15.7	30	6.9
650	28	3,653	-9.0	-19.8	30	8.5
600	28	4,268	-12.[illegible]	-24.2	30	9.4
550	28	4,927	-17.4	-28.6	30	10.3
500	28	5,633	-22.6	-33.8	30	11.0
450	28	6,398	-28.1	-37.7	30	12.8
400	28	7,233	-34.6	-43.4	30	13.7
350	28	8,154	-42.0	-48.6	30	15.1
300	28	9,178	-49.4		30	16.3
250	28	10,355	-56.0		30	18.8
200	28	11,756	-61.1		30	17.8
175	28	12,587	-59.3		30	18.9
150	28	13,560	-56.9		30	18.8
125	28	14,713	-58.2		30	16.7
100	28	16,111	-60.1		30	13.4
80	28	17,498	-61.4		30	10.0
70	28	18,327	-61.3		31	8.5
60	28	19,284	-61.2		32	7.5
50	28	20,415	-61.5		33	5.5
40	28	21,800	-60.9		34	5.4
30	26	23,590	-60.6		35	4.4
25	24	24,724	-60.2		35	4.6
20	21	26,122	-59.1		33	5.4
15	18	27,914	-57.8		32	8.0
10						
7						

BOOTHVILLE, LA 1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	1	10.3	7.2	03	1.4
1000	28	166	11.7	5.1	06	1.4
950	28	594	9.9	.8	24	1.2
900	28	1,043	8.7	-4.2	25	3.8
850	28	1,514	6.8	-7.6	27	5.3
800	28	2,010	4.9	-9.7	27	7.6
750	28	2,534	2.3	-12.9	27	9.9
700	28	3,088	-.5	-15.1	27	12.7
650	28	3,677	-3.8	-18.1	27	15.8
600	28	4,305	-7.0	-21.0	27	18.5
550	28	4,979	-11.1	-25.2	27	20.7
500	28	5,704	-16.2	-30.1	26	22.4
450	28	6,489	-21.5	-35.3	26	25.8
400	28	7,348	-27.2	-41.2	26	30.1
350	28	8,300	-33.6	-45.2	26	34.6
300	28	9,362	-41.1	-49.8	26	40.3
250	28	10,582	-48.4		26	46.3
200	28	12,027	-55.3		26	51.1
175	28	12,873	-58.3		26	50.4
150	28	13,838	-60.9		26	44.4
125	28	14,961	-64.7		26	38.7
100	28	16,308	-69.3		26	30.[illegible]
80	25	17,642	-69.6		26	21.3
70	24	18,442	-68.0		27	15.9
60	24	19,374	-65.7		26	11.9
50	23	20,494	-62.3		26	11.1
40	23	21,885	-58.8		26	8.9
30	22	23,711	-54.8		27	10.7
25	22	24,883	-53.0		27	[illegible].9
20	22	26,330	-49.8		27	8.3
15	22	28,231	-45.9		26	7.0
10	19	30,955	-43.0		24	14.1
7	10	33,353	-39.4			

* BROWNSVILLE, TX 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	27	7	13.2	11.2	16	.4
1000	27	158	14.8	9.9	14	2.0
950	27	592	13.6	5.2	15	3.6
900	27	1,046	12.6	.5	18	2.8
850	27	1,524	10.5	-2.1	20	2.6
800	27	2,027	8.4	-6.2	23	2.9
750	27	2,559	6.2	-8.7	25	4.2
700	27	3,121	3.1	-12.1	27	7.9
650	27	3,718	-.5	-16.5	27	10.8
600	27	4,353	-4.6	-19.4	27	13.0
550	27	5,032	-9.1	-24.6	27	13.8
500	27	5,762	-14.2	-30.7	27	16.2
450	27	6,552	-19.7	-35.7	26	19.5
400	27	7,416	-25.5	-41.2	26	25.2
350	27	8,375	-31.8	-45.9	26	32.6
300	27	9,447	-38.9	-50.0	26	37.7
250	27	10,674	-47.5		26	45.2
200	27	12,120	-55.9		26	48.1
175	27	12,962	-59.8		26	47.6
150	27	13,916	-63.6		26	43.0
125	27	15,022	-68.5		26	35.3
100	27	16,344	-73.0		26	28.8
80	26	17,638	-74.8		26	1[illegible].7
70	25	18,418	-72.2		26	13.3
60	23	19,332	-69.8		26	10.0
50	23	20,433	-64.8		26	7.5
40	21	21,816	-60.0		25	4.7
30	21	23,632	-56.0		27	4.5
25	20	24,788	-54.5		28	4.3
20	18	26,218	-51.3		31	3.2
15	16	28,116	-47.2		26	1.5
10	11	30,829	-45.3			
7						

BUFFALO, NY 986 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	218	-4.7	-7.5	23	4.1
1000						
950	28	511	-6.2	-8.9	25	7.9
900	28	933	-7.9	-10.5	26	11.1
850	28	1,377	-9.3	-12.5	26	12.2
800	28	1,844	-11.3	-15.4	27	13.4
750	28	2,338	-13.0	-18.8	27	14.1
700	28	2,861	-15.6	-22.4	28	15.4
650	28	3,418	-17.8	-25.9	28	17.3
600	28	4,014	-20.7	-29.1	27	18.8
550	28	4,653	-24.1	-34.0	27	19.6
500	28	5,342	-28.2	-38.4	27	21.0
450	28	6,091	-33.4	-42.3	27	21.6
400	28	6,907	-39.5	-44.3	27	22.6
350	28	7,812	-45.4		27	23.4
300	28	8,826	-50.5		27	27.0
250	27	10,016	-53.6		27	26.9
200	26	11,454	-53.1		27	28.0
175	25	12,298	-52.5		26	25.8
150	23	13,306	-52.7		26	24.2
125	22	14,470	-54.2		26	23.4
100	21	15,898	-56.7		26	21.4
80	21	17,308	-58.0		26	18.4
70	20	18,142	-58.7		26	16.0
60	20	19,110	-58.9		27	14.1
50	20	20,254	-59.1		27	15.8
40	20	21,653	-59.1		27	12.1
30	18	23,461	-58.3		27	11.0
25	18	24,614	-56.8		27	15.2
20	17	26,034	-56.5		27	17.6
15	12	27,913	-53.9		27	22.1
10						
7						

CAPE HATTERAS, NC 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	4	4.8	.1	29	2.2
1000	27	155	6.4	-2.6	29	4.6
950	28	569	4.9	-5.5	28	8.2
900	28	1,008	2.5	-7.9	27	9.2
850	28	1,46[illegible]	.4	-12.0	26	11.8
800	28	1,954	-.9	-15.5	26	13.4
750	28	2,4[illegible]	-3.0	-18.4	26	15.0
700	28	3,011	-5.3	-20.3	26	17.7
650	28	3,590	-8.2	-22.8	26	20.8
600	28	4,207	-11.9	-25.6	26	23.8
550	28	4,867	-16.1	-30.3	26	26.7
500	28	5,578	-20.6	-34.4	26	29.7
450	28	6,3[illegible]1	-25.5	-38.6	26	34.2
400	28	7,194	-31.7	-43.5	26	36.6
350	28	8,128	-38.4	-47.6	26	39.4
300	28	9,170	-45.1	-49.2	25	4[illegible].6
250	28	10,369	-51.4		26	48.1
200	28	11,803	-55.0		26	48.8
175	28	12,655	-55.8		26	42.6
150	28	13,633	-57.5		26	41.9
125	26	14,777	-61.0		26	38.6
100	25	16,160	-64.6		26	28.8
80	22	17,521	-64.9		26	21.3
70	22	18,337	-64.4		26	19.8
60	21	19,281	-62.9		26	16.7
50	21	20,411	-60.4		26	14.6
40	20	21,8[illegible]4	-58.8		26	14.5
30	18	23,625	-55.2		26	15.1
25	18	24,793	-53.4		26	16.5
20	18	26,240	-50.3		26	15.2
15	15	28,137	-47.4		25	16.7
10	8	30,838	-42.0			
7						

RAWINSONDE DATA

Average monthly values

* CARIBOU, ME 986 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	191	-13.4	-17.4	30	1.6
1000						
950	28	473	-11.6	-14.1	30	3.8
900	28	887	-12.1	-14.9	30	4.4
850	28	1,324	-12.7	-16.0	29	4.9
800	28	1,787	-13.4	-17.2	28	6.1
750	28	[illegible]	-15.1	-20.2	28	7.7
700	28	2,796	-17.2	-23.3	27	8.2
650	28	3,350	-19.4	-25.4	27	10.8
600	28	[illegible]	-22.3	-28.0	27	12.1
550	28	4,577	-25.9	-32.8	27	13.1
500	28	5,261	-30.5	-37.4	27	14.2
450	28	6,002	-35.7	-41.0	27	15.4
400	28	6,811	-41.5	-43.4	27	17.5
350	28	7,708	-47.4		26	19.5
300	28	8,712	-52.4		26	20.9
250	28	9,885	-54.3		27	23.6
200	28	11,318	-53.2		27	23.5
175	28	12,181	-51.8		27	22.7
150	27	13,184	-52.6		26	23.5
125	25	14,341	-53.6		27	23.2
100	23	15,767	-55.1		26	21.0
80	21	17,187	-56.6		27	20.4
70	21	18,043	-57.2		27	19.6
60	21	19,006	-58.2		27	18.9
50	[illegible]	20,152	-58.2		27	18.8
40	19	21,559	-58.2		26	18.1
30	17	23,374	-57.6		26	22.3
25	15	[illegible]	-55.6		26	24.6
20	15	25,938	-55.9		26	27.4
15	13	[illegible]	-53.4		25	36.8
10	8	30,424	-49.5			
7						

CENTREVILLE, AL 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	24	140	2.7	-4.0	35	.7
1000	17	199	2.7	-6.2	04	2.0
950	24	596	4.9	-4.7	29	2.4
900	24	1,036	4.0	-6.8	28	5.4
850	24	1,499	2.4	-9.4	28	7.9
800	24	1,988	.7	-12.6	28	10.2
750	24	2,504	-1.7	-14.8	28	11.6
700	24	3,050	-4.4	-17.5	28	13.3
650	24	3,631	-7.4	-20.2	27	15.6
600	24	4,250	-10.9	-24.2	27	18.1
550	24	4,914	-14.9	-29.6	27	22.3
500	24	5,628	-19.9	-33.9	26	24.6
450	24	6,402	-25.2	-38.0	26	26.9
400	24	7,247	-31.6	-44.8	26	30.8
350	24	8,181	-38.2	-47.8	26	34.8
300	24	9,223	-45.3		26	40.6
250	24	10,421	-52.1		26	48.5
200	24	11,853	-55.3		26	57.1
175	24	12,703	-56.7		26	55.7
150	24	13,676	-58.7		26	50.1
125	24	14,813	-61.8		26	40.2
100	24	16,181	-65.5		26	30.2
80	23	17,535	-66.1		26	23.0
70	23	18,347	-65.3		26	19.3
60	23	19,287	-65.0		27	16.1
50	22	20,410	-61.8		26	12.2
40	21	21,799	-59.6		26	10.7
30	21	23,608	-56.0		27	13.8
25	21	24,774	-53.6		27	13.6
20	20	26,217	-50.3		27	15.0
15	20	28,112	-46.1		26	18.2
10	17	30,841	-41.5			
7	6	33,289	-36.9			

CHARLESTON, SC 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	13	3.6	-1.1	25	1.1
1000	28	161	7.5	-2.8	26	1.8
950	28	583	6.9	-5.8	27	4.9
900	28	1,026	5.1	-8.6	26	7.0
850	28	1,491	3.4	-9.9	26	9.6
800	28	1,982	2.1	-12.6	26	11.4
750	28	2,501	-.2	-16.8	26	13.7
700	28	3,050	-3.2	-18.6	26	16.1
650	28	3,633	-6.1	-21.6	26	19.1
600	28	4,255	-9.5	-23.8	26	22.7
550	28	4,923	-13.4	-27.6	26	25.5
500	28	5,641	-18.5	-33.0	26	27.7
450	28	6,418	-23.9	-38.1	26	31.0
400	28	7,268	-29.9	-43.4	26	35.6
350	28	8,209	-36.3	-47.3	26	40.5
300	28	9,260	-43.6		26	47.4
250	28	10,466	-50.9		26	54.9
200	28	11,902	-54.9		26	58.0
175	28	12,752	-56.3		26	55.7
150	28	13,725	-58.8		26	50.4
125	28	14,859	-62.5		26	43.5
100	28	16,222	-66.5		26	34.8
80	27	17,568	-67.1		26	26.5
70	27	18,376	-65.7		26	22.1
60	27	19,315	-64.4		26	18.2
50	27	20,437	-61.7		26	15.2
40	27	21,828	-59.4		26	13.9
30	27	23,645	-55.7		26	13.6
25	25	24,811	-53.3		26	13.9
20	24	26,260	-50.6		26	11.9
15	23	28,147	-47.4		26	17.3
10	15	30,870	-43.3		25	16.1
7						

CHATHAM, MA 1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	16	-2.9	-6.6	26	2.0
1000	23	121	-2.5	-7.5	26	2.5
950	28	502	-4.0	-8.9	28	7.0
900	28	928	-5.0	-10.7	27	9.4
850	28	1,376	-6.2	-13.3	27	11.9
800	28	1,849	-7.9	-15.1	27	14.4
750	28	2,349	-9.8	-18.3	27	16.2
700	28	2,879	-12.7	-21.0	27	17.8
650	28	3,442	-15.2	-25.6	27	19.4
600	28	4,043	-18.3	-29.7	27	22.7
550	28	4,688	-22.3	-33.9	26	24.4
500	28	5,381	-27.2	-37.3	26	26.3
450	28	6,134	-31.8	-40.2	26	29.5
400	28	6,956	-37.4	-42.9	26	31.2
350	28	7,870	-43.0	-44.7	26	34.3
300	28	8,894	-48.7		26	37.1
250	27	10,081	-52.9		26	39.5
200	27	11,515	-53.7		26	38.5
175	25	12,382	-52.4		26	35.5
150	24	13,366	-53.8		26	34.5
125	23	14,538	-55.9		26	32.1
100	22	15,961	-58.5		26	27.1
80	21	17,344	-59.7		26	23.2
70	21	18,179	-59.8		26	21.5
60	20	19,144	-59.1		26	18.6
50	19	20,289	-59.0		26	17.0
40	19	21,690	-58.4		26	15.3
30	18	23,514	-57.1		26	17.0
25	17	24,663	-55.8		26	19.1
20	17	26,091	-53.2		26	22.3
15	15	27,954	-51.0		25	27.5
10	8	30,590	-47.3			
7						

CHIHJAHUA, MEXICO 859 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	1,428	3.8	-5.3	27	.9
1000						
950						
900						
850	28	1,513	6.8	-6.5	28	1.2
800	28	2,014	7.5	-7.3	29	2.7
750	28	2,542	4.6	-10.0	28	3.6
700	28	3,101	1.2	-13.6	27	5.0
650	28	3,693	-2.4	-17.6	26	7.1
600	28	4,323	-6.6	-23.6	27	9.8
550	28	4,998	-10.9	-28.0	28	12.6
500	28	5,723	-15.9	-32.7	28	14.5
450	28	6,508	-21.6	-37.4	28	17.1
400	28	7,364	-28.3	-42.9	28	19.6
350	28	8,311	-35.3	-47.8	27	22.3
300	28	9,365	-42.8	-49.4	28	27.4
250	28	10,575	-50.0		28	29.8
200	28	12,013	-55.6		28	31.5
175	28	12,862	-57.2		28	32.7
150	28	13,830	-60.6		27	30.5
125	28	14,953	-65.1		28	28.1
100	28	16,296	-70.0		28	22.1
80	28	17,619	-71.0		28	18.4
70	28	18,412	-70.1		28	13.4
60	28	19,333	-67.8		28	9.3
50	27	20,440	-64.4		28	6.3
40	27	21,817	-60.8		27	6.2
30	26	23,627	-56.4		26	10.4
25	25	24,786	-54.1		26	12.0
20	25	26,225	-52.1		26	13.8
15	24	28,108	-48.1		27	14.3
10	13	30,787	-45.2			
7						

* COLD BAY, AK 982 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	27	30	.6	-1.8	16	3.1
1000						
950	27	296	-.1	-2.7	16	4.2
900	27	727	-3.1	-5.7	16	5.2
850	27	1,177	-6.4	-9.4	16	5.1
800	27	1,649	-9.1	-14.4	16	5.9
750	27	2,146	-12.2	-19.5	17	6.2
700	27	2,669	-15.9	-23.9	18	6.6
650	27	3,224	-19.8	-28.1	18	6.9
600	27	3,813	-24.0	-32.1	18	7.5
550	27	4,442	-28.6	-36.1	18	8.2
500	27	5,118	-33.7	-38.9	18	9.1
450	27	5,848	-38.9	-41.6	17	10.0
400	27	6,647	-44.1		17	10.6
350	27	7,535	-49.6		17	10.8
300	27	8,530	-54.2		16	11.3
250	27	9,698	-53.1		18	10.7
200	27	11,147	-50.5		17	9.9
175	25	12,016	-49.8		18	9.7
150	25	13,028	-48.4		18	10.6
125	24	14,224	-48.6		19	10.3
100	24	15,693	-48.2		18	9.6
80	11	17,173	-49.7		18	8.7
70	11	18,046	-50.0		19	7.5
60	11	19,053	-50.5		18	6.9
50	9	20,233	-50.8			
40	8	21,687	-51.9			
30	8	23,549	-52.3			
25	6	24,721	-50.4			
20	5	26,227	-47.5			
15						
10						

DAYTON, OH 980 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	299	-4.5	-8.0	23	3.7
1000						
950	28	540	-3.5	-7.1	25	7.0
900	28	968	-4.3	-8.2	26	10.4
850	28	1,417	-6.1	-11.2	27	12.2
800	28	1,890	-8.0	-14.4	27	13.3
750	28	2,390	-9.7	-17.5	27	14.0
700	28	2,920	-12.4	-20.9	27	15.2
650	28	3,484	-14.4	-25.6	27	17.0
600	28	4,087	-17.7	-29.1	27	19.0
550	28	4,733	-21.5	-32.6	27	21.9
500	28	5,430	-26.1	-36.8	27	22.4
450	28	6,185	-31.2	-40.5	27	24.5
400	27	7,009	-37.5	-43.8	27	26.0
350	27	7,921	-43.8	-45.1	27	26.8
300	27	8,940	-49.7		27	30.8
250	26	10,125	-54.5		27	32.2
200	25	11,542	-55.3		27	32.3
175	25	12,397	-53.9		27	31.6
150	25	13,386	-54.6		27	29.2
125	23	14,525	-56.1		27	28.2
100	21	15,931	-59.0		27	24.2
80	19	17,327	-60.4		27	22.9
70	17	18,156	-60.5		27	19.0
60	14	19,119	-61.0		27	15.1
50	12	20,256	-60.1		27	15.2
40	11	21,653	-60.1		27	16.4
30	11	23,455	-58.5			
25	7	24,602	-58.0			
20	6	26,016	-56.7			
15	5	27,881	-53.5			
10						

DEL RIO, TX 982 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	314	8.1	2.7	08	.9
1000						
950	28	587	10.6	.3	16	2.6
900	28	1,037	9.6	-1.4	19	2.7
850	28	1,510	8.1	-5.0	24	3.1
800	28	2,009	5.9	-8.0	27	4.5
750	28	2,535	3.4	-12.9	28	6.9
700	28	3,091	.1	-15.8	28	8.8
650	28	3,681	-3.5	-20.1	28	11.3
600	28	4,308	-7.6	-24.7	27	13.7
550	28	4,979	-12.3	-28.1	27	16.4
500	28	5,700	-17.3	-32.5	27	18.0
450	28	6,482	-22.6	-38.5	27	20.1
400	28	7,335	-28.9	-42.8	27	22.9
350	28	8,279	-36.0	-48.4	27	25.4
300	28	9,332	-42.9	-50.1	27	30.9
250	28	10,541	-50.4		26	36.2
200	28	11,978	-55.8		26	38.5
175	28	12,825	-57.3		26	39.4
150	28	13,794	-60.4		27	37.4
125	28	14,918	-65.0		27	31.9
100	28	16,265	-69.1		27	25.9
80	28	17,593	-70.4		27	18.2
70	28	18,387	-69.8		27	15.0
60	28	19,310	-67.4		27	12.3
50	28	20,418	-64.3		27	7.8
40	28	21,796	-60.7		26	8.3
30	28	23,604	-56.5		26	11.1
25	28	24,765	-54.9		27	13.5
20	27	26,201	-52.9		27	16.6
15	25	28,079	-47.9		26	14.5
10	23	30,774	-44.5		25	14.0

DENVER, CO 837 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	1,611	-1.5	-10.5	24	1.7
1000						
950						
900						
850						
800	28	1,978	1.6	-12.6	30	3.9
750	28	2,495	-1.9	-15.4	32	6.1
700	28	3,039	-5.6	-18.7	32	8.4
650	28	3,617	-9.4	-21.6	33	10.6
600	28	4,230	-13.8	-25.7	33	12.0
550	28	4,886	-18.4	-29.6	33	13.2
500	28	5,590	-23.6	-35.4	32	13.2
450	28	6,352	-29.0	-39.8	32	13.4
400	28	7,183	-35.4	-43.3	32	15.6
350	28	8,102	-42.5		32	16.6
300	28	9,124	-49.8		32	16.1
250	28	10,299	-56.5		31	15.8
200	28	11,703	-58.9		30	16.5
175	28	12,545	-57.2		29	17.8
150	28	13,521	-56.9		30	19.4
125	28	14,674	-58.4		30	16.6
100	28	16,071	-60.8		29	14.7
80	28	17,453	-62.5		30	10.7
70	28	18,277	-62.6		30	10.2
60	28	19,228	-62.4		30	7.6
50	27	20,355	-61.6		31	6.6
40	27	21,739	-61.5		31	6.3
30	26	23,523	-61.1		31	5.6
25	24	24,658	-59.9		30	6.0
20	18	26,073	-57.8		29	8.1
15	15	27,894	-54.7		28	14.0
10	8	30,566	-46.9			

DODGE CITY, KS 925 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	791	-.4	-6.4	29	2.1
1000						
950						
900	27	1,019	4.2	-7.2	31	3.8
850	28	1,475	3.7	-9.5	32	6.9
800	28	1,964	.6	-12.2	32	9.0
750	28	2,480	-2.6	-14.9	32	10.0
700	28	3,023	-6.3	-17.0	31	10.7
650	28	3,598	-10.1	-19.7	31	11.6
600	28	4,211	-14.0	-23.3	31	12.7
550	28	4,866	-18.1	-28.3	30	12.9
500	28	5,571	-23.1	-32.7	30	14.4
450	28	6,335	-28.7	-38.0	30	16.0
400	28	7,167	-35.1	-43.6	30	18.3
350	28	8,087	-42.0	-46.6	29	19.4
300	28	9,112	-48.9		29	19.6
250	28	10,290	-55.9		28	18.3
200	28	11,700	-57.6		29	20.6
175	28	12,545	-56.5		29	22.5
150	27	13,526	-56.6		28	20.9
125	27	14,677	-58.9		29	21.0
100	27	16,069	-61.4		29	17.0
80	27	17,447	-63.1		29	13.7
70	27	18,268	-63.1		29	10.2
60	27	19,219	-62.3		29	8.6
50	27	20,345	-62.0		29	7.5
40	26	21,722	-62.0		29	7.2
30	24	23,519	-59.6		29	6.4
25	23	24,665	-58.9		28	7.3
20	17	26,079	-55.8		27	10.3
15	12	27,940	-52.5			
10						

EL PASO, TX 884 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	27	1,193	2.8	-7.4	31	.9
1000						
950						
900						
850	27	1,513	7.4	-8.8	33	1.9
800	27	[illegible]	5.0	-10.5	31	3.0
750	27	2,533	1.6	-13.3	29	4.7
700	27	3,084	-2.1	-17.0	29	7.0
650	27	[illegible]	-5.6	-20.8	28	9.2
600	27	[illegible]	-9.6	-25.4	29	10.2
550	27	4,959	-14.2	-30.5	29	11.6
500	27	5,674	-19.5	-33.9	29	13.3
450	27	[illegible]	-25.0	-38.7	[illegible]	15.4
400	27	7,293	-31.3	-43.5	28	19.0
350	27	8,229	-38.1	-48.6	28	21.4
300	27	9,270	-45.9		28	24.6
250	27	10,465	-52.5		29	28.2
200	27	11,889	-56.8		28	29.9
175	27	12,735	-56.7		28	29.7
150	27	13,710	-58.4		28	[illegible]
125	27	14,846	-62.9		28	26.2
100	26	16,202	-66.5		28	23.4
80	26	17,547	-67.7		28	15.6
70	26	18,350	-68.0		28	12.4
60	25	19,284	-66.3		29	9.5
50	24	20,396	-63.7		29	[illegible]
40	24	21,772	-61.2		28	5.9
30	24	23,572	-58.2		27	10.1
25	23	24,728	-56.1		27	12.3
20	22	26,157	-53.2		26	16.8
15	21	28,026	-49.5		27	22.6
10	9	30,740	-42.8			
7						

ELY, NV 813 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	1,908	-8.4	-19.4	20	3.0
1000						
950						
900						
850						
800	28	2,033	-1.0	-10.2	[illegible]	1.3
750	28	2,549	-1.6	-12.7	33	2.5
700	28	3,095	-4.9	-16.7	32	4.6
650	28	3,675	-7.8	-21.2	32	6.6
600	28	4,293	-11.5	-26.0	32	7.3
550	28	4,954	-16.1	-29.1	32	8.9
500	28	5,664	-21.4	-33.9	32	9.8
450	28	6,433	-26.9	-38.4	31	10.4
400	28	7,271	-33.4	-44.4	31	12.4
350	28	8,198	-40.1	-45.1	31	14.7
300	28	9,230	-47.9		33	14.9
250	27	10,418	-55.3		33	18.2
200	27	11,823	-60.1		32	21.2
175	26	12,657	-59.7		31	22.9
150	25	[illegible]	-58.3		31	21.2
125	25	14,776	-59.8		31	19.5
100	24	16,165	-63.2		30	15.9
80	24	17,533	-64.1		31	11.8
70	24	18,350	-64.1		31	8.4
60	23	19,297	-63.8		32	7.2
50	23	20,418	-62.5		32	5.8
40	21	21,791	-62.0		33	4.4
30	20	23,570	-61.0		33	3.6
25	17	24,709	-59.9		30	6.0
20	14	26,123	-57.4		30	5.9
15	6	28,014	-53.9			
10						
7						

EMPALME, MEXICO 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	12	13.4	3.1	34	1.8
1000	28	123	18.6	5.4	35	2.4
950	28	564	19.9	.6	36	4.2
900	28	1,028	17.4	-2.6	34	3.1
850	28	1,512	13.9	-6.1	30	1.5
800	28	2,020	10.6	-9.4	26	2.2
750	28	2,554	7.6	-13.0	30	3.4
700	28	3,118	4.2	-15.6	30	4.6
650	28	3,716	.0	-19.0	30	5.3
600	28	4,352	-4.0	-22.0	29	7.9
550	28	5,032	-8.8	-26.1	30	9.6
500	28	5,763	-14.2	-31.0	29	11.7
450	28	6,553	-20.2	-35.3	29	12.8
400	28	7,414	-27.1	-40.8	29	15.2
350	27	8,361	-34.3	-46.9	29	17.8
300	27	9,420	-41.8	-49.7	29	21.4
250	27	10,637	-48.8		28	24.5
200	27	12,080	-55.1		27	28.7
175	27	12,931	-56.7		27	30.7
150	27	13,901	-59.7		27	29.4
125	27	15,029	-64.6		27	25.5
100	27	16,377	-69.0		28	20.3
80	26	17,704	-71.0		28	14.3
70	26	18,496	-70.0		28	11.5
60	26	19,418	-67.8		29	8.3
50	24	20,529	-64.3		29	5.8
40	24	21,908	-60.3		28	6.1
30	23	23,724	-55.6		27	8.5
25	21	24,889	-53.6		27	10.2
20	20	26,328	-51.8		26	13.9
15	16	28,205	-47.5		27	15.4
10						
7						

* FAIRBANKS, AK 984 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	135	-13.9	-16.8	02	1.1
1000						
950	28	407	-4.5	-9.2	09	2.8
900	28	833	-4.7	-10.3	13	4.3
850	28	1,282	-5.2	-12.0	16	3.5
800	28	1,757	-7.1	-14.4	18	3.9
750	28	2,258	-10.5	-17.8	19	5.0
700	28	2,785	-14.2	-20.6	20	5.5
650	28	3,343	-18.1	-24.2	20	5.8
600	28	3,936	-22.1	-28.3	21	6.5
550	28	4,570	-26.7	-33.2	22	7.3
500	28	5,251	-32.0	-38.0	22	8.2
450	28	5,987	-37.2	-40.5	21	9.2
400	28	6,791	-43.0	-41.2	21	9.5
350	28	7,681	-49.5		20	10.5
300	28	8,674	-55.6		21	11.8
250	27	9,829	-57.1		21	12.9
200	25	11,255	-52.6		21	10.4
175	25	12,120	-51.4		22	10.8
150	24	13,125	-50.7		22	10.4
125	24	14,313	-50.8		22	11.2
100	23	15,763	-51.1		23	10.0
80	23	17,212	-51.8		24	9.2
70	23	18,078	-52.1		24	8.7
60	21	19,075	-52.4		24	9.2
50	19	20,240	-53.0		26	9.4
40	18	21,681	-53.6		26	10.1
30	17	23,521	-54.7		28	10.7
25	17	24,686	-55.1		29	12.1
20	17	26,110	-55.5		30	13.4
15	10	28,060	-52.1			
10						
7						

FLINT, MI 984 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind	
					Direction tens of deg.	Speed m.p.s.
SFC	28	236	-6.7	-10.6	25	2.2
1000						
950	28	507	-6.8	-10.3	26	5.3
900	28	929	-7.6	-11.3	27	7.4
850	28	1,372	-8.8	-14.2	27	10.1
800	28	1,841	-10.1	-15.3	28	11.9
750	28	2,337	-11.9	-18.0	28	13.6
700	28	2,863	-14.1	-22.4	28	14.6
650	28	3,423	-16.7	-26.4	28	15.4
600	28	4,021	-19.9	-30.9	28	16.6
550	28	4,662	-23.6	-35.3	28	18.4
500	28	5,353	-27.9	-40.4	28	19.9
450	28	6,102	-33.0	-42.3	28	21.7
400	28	6,920	-38.7	-44.3	28	23.5
350	28	7,828	-45.0		28	24.8
300	28	8,842	-50.7		27	27.3
250	28	10,019	-54.4		27	28.3
200	28	11,448	-53.8		27	27.0
175	28	12,309	-52.5		27	26.2
150	28	13,306	-52.8		27	25.3
125	28	14,480	-54.3		28	23.7
100	28	15,899	-57.2		28	20.5
80	27	17,297	-58.7		27	17.0
70	27	18,134	-59.7		27	16.6
60	26	19,089	-59.8		28	15.5
50	24	20,236	-59.5		28	14.8
40	23	21,630	-59.7		27	13.0
30	22	23,432	-59.2		27	15.0
25	22	24,579	-57.8		27	16.0
20	21	25,987	-56.2		27	18.0
15	18	27,832	-53.2		26	23.3
10	10	30,450	-45.3			
7						

RAWINSONDE DATA

Average monthly values

FEBRUARY 1977

GLASGOW, MT
934 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	696	-5.2	-6.9	32	1.0
1000						
950						
900	28	992	.6	-6.2	31	6.8
850	28	1,451	.2	-10.6	32	10.2
800	28	1,935	-2.5	-12.1	32	12.2
750	28	2,444	-5.7	-15.1	32	12.6
700	28	2,981	-9.3	-18.1	32	12.7
650	28	3,551	-12.1	-22.9	32	13.8
600	28	4,159	-15.8	-25.8	32	14.7
550	28	4,810	-20.0	-30.2	32	16.8
500	28	5,509	-25.0	-35.2	32	17.9
450	28	6,267	-30.2	-40.4	32	18.5
400	28	7,094	-36.6	-46.2	32	19.3
350	28	8,008	-43.7	-48.6	32	18.9
300	28	9,024	-51.3		32	20.2
250	28	10,190	-57.7		32	21.1
200	28	11,591	-58.9		32	21.8
175	28	12,433	-57.1		32	18.6
150	27	13,413	-55.2		32	17.2
125	27	14,577	-55.7		32	16.5
100	27	15,991	-57.5		32	15.2
80	27	17,396	-59.1		32	12.6
70	27	18,234	-59.1		32	11.1
60	27	19,200	-59.5		32	10.5
50	26	20,338	-60.1		33	10.0
40	25	21,725	-60.7		33	9.4
30	23	23,509	-61.4		34	9.5
25	22	24,652	-60.8		33	9.6
20	18	26,047	-60.6		33	12.0
15	14	27,877	-59.7		33	12.3
10						

GRAND JUNCTION, CO
855 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	1,472	-2.9	-11.1	12	1.2
1000						
950						
900						
850	23	1,544	.[illegible]	-10.6	13	2.1
800	28	2,009	.5	-11.1	09	.8
750	28	2,524	-2.5	-13.2	34	2.0
700	28	3,068	-5.9	-16.1	33	4.3
650	28	3,645	-9.3	-20.5	33	6.4
600	28	4,260	-12.9	-25.8	33	7.4
550	28	4,918	-17.3	-29.3	33	9.0
500	28	5,625	-22.3	-33.4	32	10.5
450	28	6,391	-27.7	-37.6	32	12.9
400	28	7,227	-34.1	-43.1	32	13.6
350	28	8,151	-41.3	-45.4	32	14.9
300	28	9,179	-48.6		31	15.7
250	28	10,358	-55.8		31	17.[illegible]
200	28	11,763	-59.1		30	21.1
175	27	12,606	-57.4		30	21.6
150	27	13,585	-55.9		30	20.5
125	27	14,741	-57.9		30	17.1
100	27	16,137	-61.4		30	13.3
80	25	17,512	-63.1		30	12.4
70	25	18,334	-63.3		31	10.2
60	24	19,284	-62.2		31	7.3
50	21	20,408	-61.6		32	6.[illegible]
40	20	21,787	-61.9		32	4.7
30	19	23,580	-60.1		32	4.9
25	16	24,721	-59.0		32	5.0
20	15	26,135	-57.1		29	6.3
15	13	27,978	-53.7		28	11.7
10	6	30,639	-48.9			

* GREAT FALLS, MT
889 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	1,118	1.0	-7.1	23	5.4
1000						
950						
900						
850	28	1,481	2.8	-9.8	26	9.9
800	28	1,969	-.5	-12.2	28	9.4
750	28	2,481	-4.0	-14.9	30	8.7
700	28	3,022	-7.6	-17.5	30	11.0
650	28	3,595	-11.2	-21.0	31	11.8
600	28	4,205	-15.1	-25.4	31	12.8
550	28	4,857	-19.6	-29.[illegible]	31	13.4
500	28	5,559	-24.1	-33.5	31	14.9
450	28	6,319	-29.6	-37.4	31	15.9
400	28	7,149	-36.1	-42.2	31	16.5
350	28	8,064	-43.6	-42.7	31	17.3
300	28	9,080	-51.3		31	17.9
250	28	10,248	-57.4		31	19.0
200	28	11,646	-60.6		31	17.4
175	28	12,481	-58.4		31	16.4
150	28	13,457	-55.9		31	15.5
125	28	14,615	-56.9		31	14.8
100	28	16,023	-58.4		31	12.4
80	28	17,420	-59.7		31	10.8
70	28	18,255	-59.9		32	10.3
60	27	19,216	-60.4		32	8.8
50	26	20,352	-60.5		33	8.3
40	24	21,743	-60.8		34	7.6
30	24	23,530	-61.0		34	7.7
25	20	24,659	-61.0		34	8.5
20	17	26,044	-60.8		34	9.0
15	12	27,855	-60.1			
10						

GREEN BAY, WI
987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	210	-8.9	-12.0	28	2.0
1000						
950	28	504	-7.4	-10.6	30	4.5
900	28	924	-8.9	-12.8	30	5.1
850	28	1,366	-9.6	-15.1	30	6.4
800	28	1,834	-10.6	-17.4	30	8.0
750	28	2,329	-12.1	-19.5	30	9.4
700	28	2,855	-14.5	-23.5	30	10.6
650	28	3,413	-17.5	-28.0	30	11.4
600	28	4,009	-20.8	-30.3	30	12.8
550	28	4,648	-24.4	-34.7	30	14.2
500	28	5,336	-28.7	-39.7	29	15.2
450	28	6,082	-34.1	-44.0	29	16.5
400	27	6,897	-40.1	-45.8	29	18.0
350	27	7,800	-45.9		29	19.8
300	27	8,810	-51.5		30	19.3
250	27	9,985	-54.4		29	20.0
200	27	11,415	-53.7		29	19.7
175	27	12,276	-52.5		29	17.5
150	26	13,276	-52.5		29	17.[illegible]
125	26	14,450	-54.3		29	17.5
100	26	15,873	-56.6		29	15.6
80	25	17,278	-58.3		29	14.7
70	25	18,116	-59.3		29	13.1
60	25	19,081	-59.8		29	12.4
50	25	20,220	-60.0		29	11.5
40	25	21,611	-60.5		29	12.3
30	24	23,406	-60.0		29	12.0
25	23	24,550	-59.6		29	14.0
20	21	25,962	-58.7		28	15.4
15	18	27,807	-56.7		28	16.3
10	8	30,428	-56.5			

GREENSBORO, NC
985 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	275	-.9	-6.1	25	1.2
1000						
950	28	563	2.4	-8.3	27	5.9
900	28	998	.3	-10.9	28	8.3
850	28	1,456	-.9	-14.2	28	9.8
800	28	1,938	-2.7	-16.2	27	12.1
750	28	2,448	-4.6	-19.1	27	14.8
700	28	2,989	-6.9	-21.9	27	16.7
650	28	3,564	-10.1	-23.5	27	19.5
600	28	4,176	-13.8	-27.2	26	21.8
550	28	4,833	-17.8	-31.8	26	24.[illegible]
500	28	5,538	-22.7	-37.1	27	26.4
450	28	[illegible],304	-27.5	-42.3	26	28.4
400	28	7,142	-33.1	-46.9	26	32.5
350	28	8,071	-39.7	-48.7	26	35.3
300	28	9,106	-46.6		26	37.4
250	28	10,297	-53.1		26	39.7
200	28	11,728	-54.3		26	42.2
175	28	12,583	-54.9		27	40.8
150	28	13,565	-56.4		27	34.1
125	28	14,715	-59.4		27	33.8
100	28	16,101	-62.5		27	26.9
80	28	17,474	-63.1		27	23.4
70	28	18,276	-63.1		26	20.4
60	28	19,247	-62.[illegible]		27	15.4
50	27	20,378	-60.8		27	13.7
40	27	21,769	-59.6		26	12.3
30	26	23,584	-56.1		26	15.3
25	26	24,748	-54.3		26	16.1
20	25	26,188	-50.4		26	16.2
15	22	28,082	-47.6		26	19.1
10	13	30,775	-42.6		26	26.0

GUADALUPE IS., MEXICO
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	27	23	15.0	11.8	32	4.7
1000	27	161	14.6	8.1	33	5.7
950	27	596	15.5	-1.0	34	5.0
900	27	1,053	14.6	-6.4	35	4.7
850	27	1,533	12.[illegible]	-9.7	35	4.2
800	26	2,040	10.7	-11.[illegible]	34	4.5
750	26	2,575	8.0	-14.2	33	6.4
700	26	3,140	4.4	-17.2	32	6.5
650	26	3,739	.9	-20.1	33	7.1
600	26	4,377	-3.3	-23.5	33	7.3
550	26	5,059	-8.[illegible]	-26.9	32	7.8
500	26	5,791	-14.0	-31.4	31	8.9
450	26	6,582	-19.6	-35.8	30	10.4
400	26	7,446	-26.2	-40.8	30	12.5
350	26	8,400	-34.[illegible]	-47.5	30	14.3
300	26	9,457	-42.[illegible]	-50.2	30	17.3
250	26	10,671	-49.7		29	21.0
200	26	12,108	-56.4		28	23.5
175	26	12,951	-59.0		28	26.[illegible]
150	26	13,914	-61.1		28	26.9
125	26	15,036	-65.2		28	24.9
100	26	16,379	-70.2		28	19.4
80	26	17,698	-71.7		28	12.9
70	25	18,493	-70.[illegible]		29	10.0
60	24	19,413	-68.0		29	6.7
50	24	20,516	-65.3		30	5.5
40	20	21,882	-62.4		30	4.2
30	16	23,675	-57.5		27	6.9
25	12	24,805	-54.6		26	9.0
20	8	26,229	-53.2			
15						
10						
7						

* GUAM, MARIANA IS.
1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	111	24.0	21.5	07	3.[illegible]
1000	15	120	24.6	21.4	07	4.4
950	28	561	21.6	18.8	08	9.9
900	28	1,029	18.6	15.3	08	10.3
850	28	1,518	16.5	9.0	08	9.1
800	28	2,034	15.5	1.7	08	[illegible].0
750	28	2,580	13.6	-5.5	08	8.1
700	28	3,158	11.0	-11.3	09	6.9
650	28	3,772	[illegible].1	-13.7	09	6.5
600	28	4,428	4.4	-16.3	09	6.7
550	28	5,131	.3	-19.6	10	6.7
500	28	5,888	-4.3	-22.5	11	6.6
450	27	6,711	-9.3	-28.0	12	7.7
400	27	7,612	-15.5	-33.6	12	7.4
350	26	8,610	-22.3	-38.7	12	6.3
300	26	9,721	-30.8	-45.9	12	4.5
250	25	10,989	-41.[illegible]		13	3.6
200	25	12,465	-53.5		16	4.[illegible]
175	25	13,310	-60.5		16	6.8
150	25	14,252	-68.5		16	8.6
125	23	15,325	-76.5		14	9.7
100	21	16,584	-84.1		14	10.3
80	18	17,816	-83.2		12	4.[illegible]
70	17	18,570	-79.3		10	2.3
60	17	19,455	-75.0		08	2.3
50	17	20,532	-67.9		11	2.6
40	17	21,890	-63.4		10	7.0
30	17	23,679	-58.8		09	14.1
25	17	24,833	-55.1		09	16.9
20	17	26,275	-50.5		09	17.7
15	17	28,167	-46.8		08	16.[illegible]
10	16	30,887	-41.7		08	8.5
7	6	33,295	-40.5			

HILO, HI
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	10	19.6	15.9	25	2.0
1000	28	154	20.6	17.0	23	1.3
950	28	596	17.5	15.0	12	1.8
900	28	1,057	14.8	10.8	10	2.5
850	28	1,539	12.2	6.3	09	3.0
800	28	2,047	11.0	-1.4	09	4.0
750	28	2,585	9.[illegible]	-5.[illegible]	09	4.[illegible]
700	28	3,155	7.1	-12.4	08	4.4
650	28	3,760	4.0	-16.0	08	3.2
600	28	4,407	.5	-19.6	07	1.8
550	27	5,101	-3.4	-23.1	36	1.7
500	27	5,848	-8.2	-27.0	33	3.[illegible]
450	26	6,658	-13.7	-32.0	31	5.3
400	26	7,541	-20.3	-37.9	31	7.5
350	25	8,519	-27.[illegible]	-43.8	32	11.0
300	25	9,607	-35.1	-50.[illegible]	33	17.4
250	25	10,858	-42.9		32	23.1
200	25	12,332	-52.[illegible]		32	23.3
175	25	13,185	-58.1		32	21.8
150	25	14,141	-64.8		31	18.[illegible]
125	25	15,234	-72.0		31	16.7
100	25	16,526	-78.3		30	10.6
80	25	17,789	-79.8		30	5.5
70	25	18,550	-77.4		28	3.1
60	25	19,445	-72.0		25	2.1
50	25	20,536	-66.6		25	1.9
40	25	21,905	-61.3		33	.7
30	25	23,711	-57.2		07	2.2
25	25	24,872	-54.5		09	3.8
20	24	26,312	-50.3		09	4.2
15	23	28,200	-48.3		10	3.8
10	16	30,903	-43.8		09	2.6
7	5	33,287	-41.7			

HUNTINGTON, WV
987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	246	-1.3	-6.9	23	1.3
1000						
950	28	550	-1.1	-8.0	24	5.5
900	28	980	-3.0	-8.9	26	9.3
850	28	1,431	-5.0	-11.2	27	11.9
800	28	1,905	-7.2	-14.5	27	13.3
750	28	2,407	-8.8	-17.7	27	15.8
700	28	2,940	-10.9	-21.2	27	16.7
650	28	3,507	-13.4	-23.9	27	19.3
600	28	4,113	-16.3	-27.5	27	22.6
550	28	4,763	-20.0	-31.7	27	24.[illegible]
500	28	5,463	-24.7	-36.7	27	24.6
450	28	6,222	-30.2	-40.5	27	24.7
400	28	7,050	-36.0	-44.0	27	25.0
350	28	7,969	-41.8	-46.9	26	28.6
300	28	8,996	-48.2		26	31.9
250	26	10,194	-53.9		26	33.5
200	26	11,623	-54.3		26	32.5
175	25	12,483	-53.9		26	30.7
150	25	13,471	-54.8		26	30.0
125	24	14,633	-57.2		27	27.8
100	24	16,034	-60.0		27	23.3
80	22	17,422	-61.6		27	19.[illegible]
70	22	18,251	-61.5		27	16.4
60	20	19,213	-60.7		27	14.0
50	18	20,359	-60.1		27	12.2
40	18	21,754	-59.5		27	10.7
30	17	23,560	-58.6		27	10.7
25	17	24,710	-57.0		27	13.0
20	17	26,132	-54.2		26	15.5
15	14	27,997	-50.3		26	21.7
10						
7						

* INTERNATIONAL FALLS, MN
969 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	359	-13.1	-16.5	29	.9
1000						
950	27	517	-11.[illegible]	-13.6	29	2.1
900	28	925	-11.1	-13.9	32	4.0
850	28	1,364	-10.6	-15.7	33	6.1
800	28	1,831	-11.1	-17.4	32	8.3
750	28	2,325	-12.6	-19.3	32	9.4
700	28	2,849	-14.8	-22.5	33	10.7
650	28	3,407	-17.6	-26.7	33	11.7
600	28	4,002	-21.0	-30.7	33	13.1
550	28	4,640	-24.7	-33.9	33	14.8
500	28	5,328	-28.8	-38.9	33	16.2
450	28	6,075	-33.7	-42.2	33	17.9
400	28	6,892	-39.4	-46.1	33	19.3
350	28	7,796	-45.8		33	20.4
300	28	[illegible]	-52.1		33	21.7
250	28	9,975	-55.7		32	22.0
200	28	11,397	-54.9		32	18.9
175	28	12,255	-53.1		31	17.8
150	28	13,251	-52.5		31	16.5
125	28	14,426	-53.6		31	16.8
100	28	15,854	-55.8		31	15.6
80	28	17,269	-57.5		31	14.2
70	28	18,111	-58.1		31	13.9
60	27	19,087	-58.8		31	12.5
50	26	20,234	-59.4		31	12.0
40	25	21,634	-60.1		32	11.2
30	21	23,435	-60.6		31	12.3
25	15	24,558	-60.9		31	14.6
20	11	25,938	-59.8		30	15.5
15	5	27,775	-59.0			
10						
7						

* ISLE DEL CISNE
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	10	24.4	21.[illegible]	08	3.5
1000	28	127	24.1	20.2	08	4.4
950	28	575	20.6	18.3	08	6.0
900	28	1,041	17.5	13.9	10	6.1
850	28	1,528	14.5	9.9	10	5.4
800	28	2,040	12.4	5.6	09	4.5
750	28	2,579	9.9	.5	10	3.6
700	28	3,151	7.4	-5.4	12	2.2
650	28	3,758	5.2	-11.8	22	.8
600	28	4,409	2.1	-16.4	24	2.6
550	28	5,106	-1.7	-21.5	24	4.2
500	28	5,857	-6.7	-25.4	24	6.2
450	28	6,672	-11.9	-30.[illegible]	24	8.4
400	28	7,563	-17.7	-35.[illegible]	24	10.2
350	28	8,551	-25.1	-40.9	24	12.0
300	28	9,648	-34.0	-47.0	25	13.6
250	27	10,899	-43.7		26	16.2
200	27	12,362	-54.9		26	18.4
175	27	13,204	-60.7		26	17.6
150	26	14,150	-66.2		25	15.8
125	26	15,241	-71.7		25	14.8
100	24	16,540	-77.0		25	10.5
80	22	17,813	-79.3		24	6.5
70	19	18,577	-77.9		24	4.2
60	17	19,472	-73.5		26	1.2
50	17	20,558	-66.2		06	.9
40	17	21,930	-61.3		07	3.1
30	17	23,733	-56.9		08	7.4
25	16	24,903	-53.5		08	9.2
20	13	26,349	-49.7		08	9.1
15	10	28,244	-47.5		11	8.4
10	5	30,947	-43.1			
7						

JACKSON, MS
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	100	4.8	1.[illegible]	17	.8
1000	25	173	5.3	-1.1	28	.2
950	28	584	6.6	-2.6	26	3.1
900	28	1,027	5.2	-5.2	27	5.6
850	28	1,492	3.7	-8.8	28	8.2
800	28	1,983	1.2	-11.0	28	9.8
750	28	2,499	-1.3	-13.2	27	11.2
700	28	3,047	-3.7	-17.8	28	13.2
650	28	3,629	-6.6	-21.6	27	15.3
600	28	4,250	-10.3	-24.5	27	17.9
550	28	4,915	-14.5	-28.6	27	21.0
500	28	5,630	-19.[illegible]	-33.5	27	23.7
450	28	6,407	-24.4	-37.9	27	26.7
400	28	7,254	-30.3	-44.0	27	28.9
350	28	8,194	-37.0	-48.6	26	31.3
300	28	9,241	-44.5		26	36.2
250	28	10,442	-51.7		26	41.0
200	28	11,873	-55.9		26	52.4
175	28	12,722	-56.7		26	51.6
150	28	13,694	-59.0		26	47.5
125	28	14,829	-62.5		26	40.9
100	28	16,192	-66.6		26	29.0
80	25	17,537	-66.9		27	23.2
70	24	18,342	-66.5		26	18.7
60	24	19,278	-65.2		26	15.6
50	24	20,396	-62.7		26	11.9
40	24	21,779	-60.4		26	11.6
30	24	23,584	-57.6		26	13.7
25	24	24,744	-54.8		26	16.1
20	24	26,180	-51.9		26	17.6
15	22	28,065	-47.8		26	18.5
10	16	30,767	-43.9		25	20.7
7	6	33,149	-39.5			

JOHN F. KENNEDY INT. AP NY
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	27	5	-1.2	-6.7	29	2.1
1000	25	123	-1.8	-8.3	29	4.1
950	27	520	-3.1	-8.1	28	7.7
900	27	947	-5.0	-8.6	28	10.6
850	27	1,396	-5.6	-11.5	28	12.3
800	27	1,870	-7.[illegible]	-14.5	28	14.3
750	27	2,371	-9.5	-17.2	28	16.6
700	27	2,902	-11.9	-20.1	27	19.0
650	27	3,467	-14.5	-23.1	27	20.8
600	27	4,069	-18.3	-27.8	27	21.7
550	27	4,714	-22.1	-34.1	27	24.1
500	27	5,408	-26.7	-37.5	27	26.6
450	27	6,161	-31.8	-40.7	27	30.8
400	27	6,984	-37.4	-45.4	27	33.2
350	27	7,898	-43.0	-45.5	27	37.2
300	25	8,941	-48.8		27	41.1
250	25	10,125	-53.4		27	43.3
200	25	11,556	-54.0		27	47.0
175	25	12,416	-53.1		27	42.6
150	25	13,409	-53.6		26	39.7
125	25	14,576	-55.9		27	34.9
100	24	15,988	-59.0		26	29.8
80	24	17,383	-59.[illegible]		27	23.8
70	24	18,216	-60.4		27	21.0
60	24	19,178	-59.4		27	17.[illegible]
50	24	20,322	-59.0		27	14.2
40	23	21,727	-59.[illegible]		27	14.0
30	22	23,535	-57.2		26	11.0
25	21	24,686	-55.9		26	17.6
20	20	26,105	-53.6			
15	20	27,970	-50.2		25	23.8
10	11	30,622	-45.9			
7						

JOHNSTON IS., PACIFIC AREA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	3	24.6	20.8	08	7.4
1000	28	132	23.1	19.2	08	7.8
950	28	578	19.3	17.2	08	8.6
900	28	1,042	16.2	13.2	08	9.2
850	28	1,527	13.6	9.2	09	[illegible].9
800	28	2,038	13.9	-1.0	08	7.6
750	28	2,580	12.6	-8.5	08	6.2
700	28	3,156	9.6	-12.1	08	5.7
650	28	3,767	6.6	-14.7	07	4.1
600	28	4,420	3.2	-17.9	06	2.9
550	28	5,120	-.4	-21.0	03	3.4
500	28	5,875	-5.9	-25.8	36	3.8
450	28	6,692	-11.1	-30.1	34	4.7
400	28	7,586	-17.3	-35.3	34	6.7
350	27	8,576	-24.2	-41.1	33	10.4
300	27	9,679	-32.[illegible]	-47.8	32	12.8
250	27	10,942	-41.2		32	14.4
200	27	12,421	-52.6		32	13.8
175	27	13,271	-59.1		32	13.5
150	27	14,221	-66.5		32	12.9
125	27	15,303	-74.3		32	11.2
100	26	16,580	-81.0		33	8.5
80	25	17,825	-83.0		33	3.3
70	23	18,572	-80.2		34	.9
60	23	19,457	-74.0		24	.3
50	22	20,541	-67.4		13	.7
40	21	21,906	-61.5		11	2.2
30	21	23,706	-57.8		08	7.5
25	20	24,862	-54.5		08	10.1
20	20	26,306	-49.9		09	11.9
15	19	28,204	-47.4		09	11.2
10	16	30,908	-44.0		09	7.4
7	5	33,328	-37.5			

KEY WEST, FL
1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	3	17.6	14.5	03	3.2
1000	28	160	17.4	13.5	05	3.6
950	28	598	15.8	10.5	08	2.[illegible]
900	28	1,056	13.2	7.3	20	.9
850	28	1,536	11.8	.8	25	3.2
800	28	2,042	10.4	-2.1	25	5.0
750	28	2,578	[illegible].2	-7.2	26	6.5
700	28	3,144	4.9	-9.1	26	8.3
650	28	3,745	1.7	-12.7	26	10.2
600	28	4,386	-1.9	-14.8	26	12.3
550	28	5,074	-5.9	-21.1	25	14.7
500	28	5,813	-10.6	-26.5	25	18.3
450	28	6,616	-15.6	-32.1	25	21.2
400	28	7,495	-21.2	-36.0	25	25.6
350	28	8,471	-27.7	-42.0	25	29.0
300	28	9,558	-36.0	-49.1	26	32.6
250	28	10,799	-45.8		26	36.2
200	28	12,253	-55.6		26	35.6
175	28	13,094	-60.8		26	34.5
150	28	14,042	-65.2		26	32.8
125	27	15,140	-69.9		26	28.3
100	27	16,453	-74.8		26	22.2
80	27	17,741	-76.8		26	16.7
70	25	18,512	-74.1		26	11.6
60	25	19,420	-70.1		26	9.3
50	25	20,520	-64.5		27	3.9
40	25	21,899	-60.2		29	1.9
30	23	23,712	-56.0		01	2.9
25	22	24,878	-53.2		05	3.7
20	21	26,325	-50.4		08	4.2
15	20	28,215	-46.4		12	3.0
10	13	30,911	-42.6			
7						

RAWINSONDE DATA

Average monthly values

FEBRUARY 1977

KING SALMON, AK
988 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	26	15	-1.1	-4.1	08	2.4
1000						
950	26	330	.6	-3.3	11	5.9
900	26	762	-1.8	-6.0	12	6.7
850	26	1,215	-4.6	-8.6	13	7.7
800	26	1,690	-7.4	-11.6	14	8.7
750	26	2,190	-10.3	-15.7	15	9.4
700	26	2,718	-13.7	-19.7	15	9.3
650	26	3,277	-17.6	-23.0	14	9.7
600	26	3,872	-21.8	-27.1	14	10.2
550	26	4,506	-26.5	-33.0	14	10.1
500	26	5,189	-31.3	-37.8	15	10.8
450	26	5,917	-36.7	-42.3	15	11.5
400	26	6,742	-42.9	-49.0	15	12.7
350	26	7,622	-49.5		16	13.1
300	26	8,616	-54.8		17	15.4
250	26	9,778	-55.3		17	13.9
200	26	11,215	-51.5		18	13.1
175	26	12,086	-49.8		18	10.8
150	26	13,097	-49.2		18	10.7
125	26	14,293	-48.9		18	10.5
100	25	15,758	-49.8		19	9.8
80	25	17,217	-50.4		20	8.4
70	24	18,093	-50.4		20	7.3
60	22	19,100	-51.1		19	7.1
50	19	20,283	-52.1		20	5.5
40	19	21,723	-53.5		20	4.3
30	17	23,578	-54.1		23	1.9
25	13	24,745	-55.3		36	1.8
20	10	26,208	-54.7		35	3.5

+ **KOROR, CAROLINE IS.**
1007 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	30	26.9	23.7	07	4.0
1000	28	91	26.3	23.3	07	4.9
950	28	543	22.9	21.0	07	9.2
900	28	1,014	20.0	16.9	08	10.3
850	28	1,506	17.6	10.4	08	9.7
800	28	2,024	16.0	5.2	09	8.3
750	28	2,571	13.5	.2	09	8.2
700	28	3,149	10.2	-1.6	09	7.4
650	28	3,762	7.0	-4.0	09	8.8
600	28	4,416	3.5	-7.3	09	9.2
550	27	5,117	-.4	-9.9	10	8.9
500	27	5,874	-4.5	-14.2	10	9.1
450	27	6,697	-9.4	-19.5	10	8.4
400	27	7,599	-14.4	-27.6	10	9.7
350	27	8,600	-21.4	-34.3	10	9.7
300	27	9,714	-29.9	-41.7	10	10.1
250	27	10,986	-40.3	-50.6	12	10.7
200	27	12,466	-53.2		12	13.4
175	27	13,313	-60.3		12	16.7
150	26	14,255	-68.2		12	20.1
125	26	15,328	-76.4		12	24.2
100	26	16,592	-81.4		11	19.3
80	25	17,851	-79.2		09	4.1
70	25	18,617	-75.1		32	1.1
60	25	19,518	-72.2		29	2.0
50	25	20,603	-68.1		07	1.4
40	25	21,962	-62.7		09	14.1
30	24	23,754	-57.1		09	24.8
25	23	24,917	-54.1		09	26.7
20	23	26,363	-49.9		09	26.9
15	22	28,267	-45.8		09	25.6
10	18	31,008	-39.4		10	12.9
7	11	33,472	-34.7			

KOTZEBUE, AK
1003 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	5	-15.6	-18.5	04	2.2
1000	17	69	-17.8	-21.9	04	2.7
950	28	418	-10.6	-14.8	09	4.4
900	28	834	-10.6	-14.2	09	4.1
850	28	1,275	-10.4	-16.3	09	3.2
800	28	1,740	-12.2	-19.8	10	2.8
750	28	2,231	-15.1	-22.5	11	2.3
700	28	2,750	-18.0	-26.2	14	2.1
650	28	3,301	-21.2	-29.5	16	2.5
600	28	3,887	-24.8	-33.0	18	3.4
550	28	4,515	-28.8	-37.8	18	4.5
500	28	5,190	-33.6	-41.5	19	4.9
450	28	5,922	-38.8	-44.0	19	5.7
400	28	6,721	-44.4		19	6.7
350	27	7,607	-50.4		19	7.0
300	27	8,595	-56.9		19	7.9
250	26	9,745	-58.6		18	9.2
200	24	11,166	-53.3		19	8.7
175	23	12,031	-51.7		20	8.5
150	23	13,034	-50.6		20	8.7
125	23	14,224	-50.3		20	8.2
100	22	15,684	-50.3		21	8.6
80	22	17,140	-50.3		22	7.6
70	22	18,011	-51.0		22	7.0
60	21	19,008	-51.5		23	7.4
50	21	20,191	-51.8		24	7.7
40	19	21,638	-52.9		26	7.8
30	18	23,481	-53.7		27	8.9
25	17	24,668	-54.0		28	10.7
20	16	26,109	-54.1		28	11.9
15	12	28,010	-50.8		28	18.2

KWAJALEIN, MARSHALL IS.
1011

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.

LAKE CHARLES, LA
1019 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	5	8.3	4.4	06	1.1
1000	28	164	10.3	2.3	09	1.1
950	28	590	9.3	-1.4	19	2.0
900	28	1,038	8.1	-4.7	23	3.3
850	28	1,508	6.7	-7.8	26	5.4
800	28	2,004	4.1	-9.6	27	7.2
750	28	2,526	1.4	-12.4	28	9.2
700	28	3,078	-1.5	-17.2	28	11.2
650	28	3,665	-4.6	-20.3	27	13.9
600	28	4,292	-7.9	-24.6	27	17.6
550	28	4,962	-12.1	-28.9	27	20.2
500	28	5,684	-17.0	-32.4	27	22.4
450	28	6,466	-22.8	-36.7	26	23.6
400	28	7,319	-29.4	-43.5	26	26.2
350	28	8,263	-35.5	-48.8	26	31.6
300	28	9,316	-43.1	-48.3	26	36.0
250	27	10,525	-50.2		26	43.1
200	27	11,962	-55.8		26	47.7
175	27	12,809	-57.5		26	50.2
150	27	13,778	-60.0		26	45.7
125	26	14,904	-64.9		26	40.6
100	26	16,254	-68.1		26	27.9
80	26	17,587	-69.5		26	20.7
70	24	18,386	-68.1		27	15.3
60	22	19,314	-64.9		27	11.9
50	22	20,433	-62.5		27	10.9
40	22	21,819	-60.1		27	7.6
30	22	23,635	-55.9		27	13.3
25	22	24,798	-54.7		27	12.2
20	21	26,234	-51.6		27	14.2
15	20	28,120	-47.0		27	13.3
10	14	30,824	-44.1		25	19.8

LANDER, WY
830 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	1,697	-4.0	-10.3	23	1.4
1000						
950						
900						
850						
800	28	1,989	-.4	-13.3	30	1.0
750	28	2,503	-2.7	-16.1	33	3.9
700	28	3,047	-5.9	-19.2	31	6.9
650	28	3,624	-9.7	-21.9	32	9.4
600	28	4,237	-13.6	-26.8	32	12.4
550	28	4,893	-18.1	-30.4	32	14.0
500	28	5,598	-23.5	-34.2	32	15.8
450	28	6,359	-29.5	-37.3	32	17.2
400	28	7,188	-36.0	-42.1	32	19.0
350	28	8,105	-43.1	-45.2	32	20.7
300	28	9,124	-50.3		32	22.7
250	28	10,296	-57.3		31	23.7
200	28	11,693	-60.6		31	21.1
175	28	12,529	-58.4		32	21.0
150	28	13,504	-56.8		31	21.5
125	28	14,658	-57.7		30	18.3
100	28	16,060	-60.1		30	15.5
80	27	17,451	-61.4		31	9.1
70	26	18,276	-61.6		31	8.2
60	26	19,232	-61.6		32	7.7
50	25	20,361	-62.1		33	6.6
40	24	21,750	-61.6		34	5.2
30	21	23,531	-60.9		34	4.4
25	20	24,670	-60.0		34	5.0
20	16	26,077	-59.4		33	4.6
15	8	27,949	-57.2			

* **LIHUE KAUAI, HI**
1015 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	36	21.3	18.6	04	2.0
1000	28	163	21.2	17.7	05	3.2
950	28	606	17.9	15.3	06	4.6
900	28	1,068	15.0	11.6	06	4.2
850	28	1,550	12.5	6.0	06	3.4
800	28	2,058	11.6	-1.5	07	2.8
750	28	2,596	9.8	-8.7	10	1.8
700	28	3,166	7.3	-12.0	17	.7
650	28	3,772	3.9	-15.7	25	1.5
600	28	4,417	-.1	-19.5	28	3.5
550	28	5,109	-4.0	-23.0	28	6.2
500	28	5,854	-9.0	-27.6	28	7.6
450	28	6,661	-14.5	-32.7	29	10.9
400	28	7,542	-21.2	-37.8	29	13.3
350	28	8,516	-28.3	-43.7	30	16.7
300	28	9,603	-35.2	-49.8	30	22.2
250	28	10,852	-43.2		31	27.5
200	28	12,323	-52.8		30	29.0
175	28	13,174	-58.3		30	28.1
150	28	14,130	-64.6		30	25.4
125	28	15,226	-71.4		30	20.9
100	27	16,523	-78.3		29	17.8
80	27	17,787	-80.0		29	12.7
70	27	18,546	-77.6		28	9.1
60	26	19,441	-72.3		26	5.8
50	25	20,534	-65.7		24	2.5
40	25	21,903	-61.6		29	.6
30	23	23,706	-56.9		33	2.2
25	21	24,864	-54.4		30	2.2
20	20	26,301	-51.5		29	1.8
15	20	28,183	-48.3		27	1.2
10	16	30,877	-45.4		18	1.4
7	10	33,289	-40.2			

LITTLE ROCK, AR
999 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	79	3.6	-2.1	26	.7
1000	16	213	.4	-6.0	36	.5
950	28	584	5.3	-4.0	27	4.5
900	28	1,024	3.8	-5.1	27	7.9
850	28	1,487	2.1	-8.8	28	9.9
800	28	1,975	-.1	-11.5	28	11.2
750	28	2,489	-2.8	-13.9	28	12.6
700	28	3,033	-5.8	-17.1	28	13.8
650	28	3,611	-9.1	-21.8	28	14.9
600	28	4,226	-12.5	-26.4	28	16.8
550	28	4,885	-16.8	-30.7	28	18.8
500	28	5,594	-21.5	-34.8	28	20.6
450	28	6,363	-26.5	-39.8	28	23.3
400	28	7,203	-32.6	-44.4	28	25.9
350	28	8,134	-39.2	-45.7	27	29.5
300	26	9,176	-46.7		27	31.1
250	26	10,364	-54.4		27	32.7
200	25	11,777	-57.6		27	38.7
175	24	12,625	-56.4		27	40.0
150	24	13,602	-57.4		27	37.3
125	24	14,748	-59.8		27	32.9
100	24	16,132	-63.3		27	26.1
80	24	17,495	-65.3		27	19.7
70	23	18,312	-64.7		27	15.7
60	23	19,258	-63.4		27	13.3
50	23	20,381	-62.0		27	10.1
40	22	21,769	-60.9		28	9.8
30	22	23,569	-58.4		27	11.9
25	20	24,722	-56.4		27	13.1
20	19	26,156	-53.0		27	17.0
15	19	28,028	-48.5		26	22.7
10	15	30,727	-42.4		26	27.2
7	8	33,175	-38.1			

LONGVIEW, TX
1006 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	124	6.1	2.3	19	1.6
1000	23	197	6.4	-.6	20	1.2
950	28	599	8.6	-3.4	23	3.4
900	28	1,044	6.8	-6.2	25	4.7
850	28	1,512	4.8	-8.3	26	6.4
800	28	2,004	2.2	-11.5	27	7.4
750	28	2,523	-.4	-14.7	27	9.5
700	28	3,072	-3.5	-16.6	28	11.4
650	28	3,654	-6.8	-20.0	27	13.3
600	28	4,275	-10.4	-25.1	28	14.8
550	28	4,940	-14.7	-29.1	27	16.7
500	28	5,654	-19.3	-33.9	27	21.0
450	28	6,430	-24.5	-38.6	27	24.6
400	28	7,276	-31.2	-43.6	27	25.1
350	28	8,212	-38.3	-47.2	27	26.0
300	28	9,253	-45.7		26	30.5
250	28	10,447	-53.0		26	37.5
200	28	11,872	-56.6		26	40.5
175	27	12,719	-56.5		27	41.1
150	27	13,692	-58.8		26	40.3
125	27	14,827	-62.6		27	37.5
100	26	16,193	-66.2		27	29.8
80	26	17,540	-67.5		27	19.1
70	25	18,349	-66.2		27	14.3
60	25	19,287	-64.5		27	14.2
50	23	20,406	-62.5		27	11.8
40	23	21,789	-60.6		28	8.1
30	23	23,596	-57.0		27	12.2
25	22	24,757	-54.4		26	15.9
20	20	26,195	-52.0		27	17.7
15	16	28,069	-47.2		27	20.3
10	9	30,792	-43.8			

MCGRATH, AK
985 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	103	-15.1	-17.8	01	.5
1000						
950	28	385	-8.0	-10.0	07	3.2
900	28	808	-5.0	-8.5	10	5.0
850	28	1,258	-4.8	-10.1	13	4.6
800	28	1,733	-7.2	-13.7	15	4.6
750	28	2,234	-10.5	-17.1	16	4.7
700	28	2,761	-14.3	-20.3	17	5.7
650	28	3,319	-18.2	-23.9	17	6.1
600	28	3,912	-22.5	-29.8	17	6.7
550	28	4,545	-26.9	-33.1	17	8.7
500	28	5,225	-32.0	-38.1	17	8.0
450	28	5,962	-37.3	-40.6	17	8.4
400	28	6,765	-43.4	-42.2	17	8.8
350	28	7,653	-50.0		17	9.6
300	28	8,642	-56.7		17	9.4
250	28	9,796	-56.8		18	10.5
200	28	11,226	-51.9		19	10.7
175	27	12,095	-50.6		19	10.3
150	27	13,103	-49.4		19	10.0
125	27	14,296	-49.8		19	9.9
100	27	15,757	-49.7		20	8.9
80	27	17,214	-50.5		21	8.4
70	27	18,084	-50.7		21	8.3
60	27	19,089	-50.7		21	6.6
50	27	20,276	-51.3		22	6.8
40	26	21,719	-52.1		24	6.2
30	25	23,582	-52.8		26	5.9
25	21	24,769	-52.8		28	6.2
20	14	26,218	-52.7		30	7.0
15	8	28,111	-51.1			

+ **MAJURO, MARSHALL IS.**
1011 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	3	28.5	23.0	06	6.9
1000	28	96	26.9	21.6	06	8.3
950	28	548	23.0	19.9	06	11.6
900	28	1,019	19.8	16.3	07	11.6
850	28	1,510	17.1	12.5	08	10.0
800	28	2,028	16.9	2.4	09	7.9
750	28	2,576	14.7	-2.5	09	8.3
700	28	3,156	11.5	-7.0	10	7.5
650	28	3,772	8.3	-10.4	10	8.3
600	28	4,429	5.0	-13.5	09	10.7
550	28	5,134	1.4	-17.7	09	12.2
500	28	5,895	-3.3	-21.0	09	14.5
450	28	6,721	-7.8	-25.1	09	15.6
400	28	7,628	-13.7	-30.3	09	13.7
350	28	8,633	-20.3	-36.1	09	10.5
300	28	9,753	-28.5	-43.4	09	6.9
250	27	11,033	-38.8	-51.4	10	6.4
200	27	12,524	-51.2		10	6.5
175	27	13,379	-58.1		10	6.6
150	27	14,332	-66.2		08	8.6
125	27	15,416	-74.0		08	11.4
100	27	16,689	-82.0		08	12.2
80	27	17,934	-81.5		09	7.6
70	26	18,699	-76.1		09	1.7
60	25	19,599	-71.8		25	2.0
50	25	20,688	-66.7		09	3.9
40	25	22,055	-61.9		09	14.3
30	25	23,8[illegible]8	-56.2		09	23.0
25	24	25,022	-53.8		09	25.6
20	24	26,467	-50.4		09	28.2
15	22	28,374	-43.6		09	24.4
10	13	31,129	-38.3			
7	6	33,601	-32.5			

* **MEDFORD, OR**
975 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	401	1.9	-.6	18	.9
1000						
950	28	614	6.6	.7	19	.9
900	28	1,060	7.0	-1.7	17	3.7
850	28	1,528	4.9	-4.9	20	4.0
800	28	2,020	2.5	-10.0	22	5.3
750	28	2,539	-.5	-13.6	24	6.0
700	28	3,088	-3.5	-16.8	25	7.4
650	28	3,669	-7.4	-19.6	26	8.6
600	28	4,288	-11.5	-23.0	26	10.2
550	28	4,949	-16.0	-26.3	27	11.5
500	28	5,661	-20.9	-31.3	27	12.5
450	28	6,432	-26.3	-36.1	27	13.5
400	27	7,269	-32.9	-42.2	27	14.7
350	27	8,197	-40.1	-46.3	28	15.8
300	27	9,230	-47.5		28	18.3
250	27	10,412	-55.8		28	22.4
200	27	11,812	-61.5		29	24.9
175	26	12,637	-59.7		29	24.8
150	24	13,608	-59.1		29	22.0
125	23	14,752	-59.0		29	18.9
100	23	16,144	-61.4		29	14.1
80	22	17,521	-62.3		30	10.0
70	22	18,346	-62.7		30	7.1
60	22	19,299	-62.0		31	5.7
50	22	20,428	-61.5		33	3.9
40	21	21,814	-61.4		35	4.0
30	20	23,601	-61.0		36	3.7
25	19	24,738	-60.2		01	4.2
20	18	26,130	-59.1		35	4.0
15	15	27,949	-56.4		31	5.7
10	7	30,560	-51.7			

MERIDA, MEXICO
1015 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	11	18.7	17.7	07	1.8
1000	28	141	19.7	17.3	07	3.9
950	28	584	18.2	15.0	10	5.5
900	28	1,046	16.0	11.2	10	3.3
850	28	1,531	13.9	6.8	15	1.8
800	28	2,041	12.0	1.8	20	1.9
750	28	2,580	9.3	-2.8	24	1.8
700	28	3,149	6.1	-7.2	24	2.7
650	28	3,752	2.7	-11.5	25	4.2
600	28	4,396	-.8	-17.8	26	6.1
550	28	5,086	-4.7	-21.2	26	8.0
500	28	5,830	-9.4	-26.8	25	12.0
450	27	6,637	-13.9	-29.3	25	18.6
400	27	7,522	-19.5	-34.4	25	19.2
350	26	8,502	-26.6	-40.7	25	22.3
300	26	9,593	-35.0	-48.9	25	25.5
250	26	10,838	-44.9		25	27.2
200	26	12,295	-55.5		25	28.1
175	26	13,136	-60.9		25	28.9
150	26	14,082	-65.7		25	29.5
125	26	15,176	-71.0		25	27.7
100	26	16,478	-76.8		25	18.2
80	24	17,751	-78.6		25	13.5
70	22	18,519	-76.5		25	9.5
60	21	19,417	-72.2		25	5.9
50	21	20,509	-65.1		23	1.5
40	18	21,887	-60.0		06	2.4
30	18	23,701	-55.9		07	5.0
25	18	24,871	-52.4		07	8.6
20	17	26,323	-49.7		08	5.7
15	14	28,231	-45.8		10	4.4
10	7	30,913	-44.1			

MIAMI, FL
1019 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	22	4	14.6	12.4	33	1.9
1000	22	166	15.5	10.9	36	2.3
950	22	601	13.7	8.1	02	1.8
900	22	1,056	11.7	5.0	28	1.3
850	22	1,533	10.8	-.9	27	4.3
800	22	2,036	8.6	-5.0	27	6.7
750	22	2,568	6.6	-6.7	26	8.3
700	22	3,132	3.7	-10.5	26	10.8
650	22	3,730	.8	-12.7	26	13.9
600	22	4,369	-3.1	-14.8	26	16.8
550	22	5,053	-7.2	-21.2	26	20.2
500	22	5,789	-11.9	-25.4	26	23.0
450	22	6,589	-16.6	-32.2	26	26.6
400	22	7,465	-22.4	-35.3	26	29.8
350	21	8,433	-29.1	-42.1	26	35.7
300	21	9,514	-37.2	-47.7	26	39.9
250	21	10,748	-47.0		26	44.0
200	21	12,194	-56.3		26	49.8
175	21	13,032	-61.3		26	47.1
150	21	13,980	-64.7		26	43.2
125	21	15,082	-68.8		26	36.8
100	20	16,412	-72.8		26	30.8
80	19	17,714	-74.7		26	24.9
70	17	18,492	-72.6		26	18.6
60	17	19,406	-68.9		26	12.7
50	17	20,512	-63.0		26	4.9
40	17	21,899	-59.1		26	6.2
30	17	23,720	-55.4		02	2.1
25	17	24,892	-52.4		07	5.8
20	17	26,344	-49.9		08	4.4
15	16	28,234	-46.9		10	3.8
10	12	30,948	-41.5			

MIDLAND, TX
917 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	874	3.3	-2.4	24	1.1
1000						
950						
900	28	1,028	7.1	-1.9	24	2.2
850	28	1,500	8.1	-7.0	27	5.4
800	28	1,998	5.4	-10.4	29	6.8
750	28	2,522	2.0	-13.8	29	7.3
700	28	3,074	-1.9	-17.1	28	8.8
650	28	3,659	-5.5	-20.4	28	10.7
600	28	4,282	-9.7	-25.4	28	13.2
550	28	4,948	-13.9	-29.5	28	15.0
500	28	5,666	-18.6	-33.6	28	16.0
450	28	6,443	-24.2	-39.4	27	18.1
400	28	7,290	-30.7	-44.7	27	20.7
350	28	8,228	-37.6	-47.7	27	24.4
300	28	9,273	-44.4		27	27.7
250	28	10,475	-51.3		27	30.6
200	28	11,909	-55.6		27	32.8
175	28	12,759	-56.4		27	32.0
150	28	13,736	-57.6		28	30.4
125	28	14,877	-61.5		28	28.1
100	28	16,246	-65.6		28	23.8
80	28	17,598	-66.8		28	17.3
70	28	18,405	-66.9		28	14.5
60	28	19,341	-65.0		28	11.0
50	28	20,459	-63.0		28	7.7
40	27	21,834	-61.4		28	7.3
30	27	23,634	-57.5		27	10.8
25	27	24,794	-55.1		27	14.0
20	27	26,226	-52.9		27	17.2
15	23	28,098	-49.3		27	22.2
10	22	30,793	-44.1		26	22.2
7	11	33,223	-42.1		24	22.8

RAWINSONDE DATA

Average monthly values

MONTERREY, MEXICO
967 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	423	9.9	6.7	33	2.1
1000						
950	28	594	11.8	5.8	34	1.9
900	28	1,047	10.9	3.1	16	.7
850	28	1,523	9.9	-1.0	18	1.1
800	27	2,025	8.8	-5.7	23	2.1
750	27	2,556	6.3	-8.9	25	3.6
700	27	3,119	3.2	-13.1	27	6.8
650	27	3,715	-.6	-16.3	27	8.7
600	27	4,350	-4.8	-20.5	26	11.0
550	27	5,028	-9.5	-25.8	26	13.2
500	27	5,757	-14.6	-32.3	26	15.7
450	27	6,548	-19.7	-36.5	26	17.5
400	27	7,411	-26.0	-40.9	26	22.3
350	27	8,369	-31.9	-46.2	26	28.5
300	27	9,439	-39.2	-50.2	26	34.2
250	27	10,666	-47.3		26	41.0
200	27	12,114	-55.4		26	44.1
175	27	12,959	-59.2		26	42.0
150	27	13,917	-62.8		26	37.4
125	27	15,028	-67.5		26	29.7
100	27	16,356	-72.4		26	25.0
80	26	17,662	-74.3		26	19.6
70	24	18,448	-72.0		26	14.6
60	22	19,364	-69.2		26	9.8
50	22	20,467	-63.9		26	[illegible].3
40	21	21,850	-59.6		26	[illegible].2
30	21	23,669	-56.2		26	5.5
25	21	24,833	-53.7		27	3.8
20	20	26,274	-52.[illegible]		27	5.2
15	17	28,152	-46.5		27	2.0
10	11	30,857	-45.6			

MONETT, MO
966 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	438	-.3	-3.7	24	.6
1000						
950	26	582	1.1	-3.8	27	2.8
900	28	1,005	1.2	-5.6	28	6.8
850	28	1,464	-.2	-7.8	29	8.5
800	28	1,948	-1.8	-12.6	29	10.3
750	28	2,459	-3.9	-14.9	29	12.7
700	28	3,001	-6.9	-17.5	29	14.3
650	28	3,576	-9.9	-21.9	29	15.1
600	28	4,189	-13.5	-25.7	29	17.3
550	28	4,846	-17.6	-29.6	29	19.1
500	28	5,553	-22.5	-34.1	29	20.5
450	28	6,319	-27.5	-39.2	29	21.1
400	28	7,156	-33.7	-43.2	29	22.3
350	28	8,082	-40.4	-44.0	28	24.1
300	28	9,114	-47.9		28	24.9
250	27	10,302	-54.5		27	27.9
200	27	11,719	-56.7		27	29.6
175	27	12,567	-55.6		27	31.3
150	27	13,550	-55.7		27	29.0
125	27	14,705	-58.2		27	26.9
100	27	16,101	-60.9		27	22.[illegible]
80	26	17,484	-62.9		28	17.[illegible]
70	25	18,304	-62.5		28	15.1
60	23	19,257	-61.9		28	11.5
50	23	20,387	-61.2		28	9.3
40	22	21,780	-60.[illegible]		28	8.7
30	22	23,575	-59.3		28	9.2
25	21	24,719	-57.7		28	10.[illegible]
20	20	26,134	-54.8		27	14.5
15	18	27,990	-52.0		27	21.9
10	10	30,648	-46.0			

NASHVILLE, TN
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	180	-.2	-6.2	23	.9
1000	11	225	-4.9	-10.2	33	.7
950	28	571	.7	-6.7	26	4.8
900	28	1,004	-1.0	-8.9	27	8.2
850	28	1,458	-2.7	-11.5	27	10.8
800	28	1,938	-4.0	-14.9	28	12.8
750	28	2,446	-5.8	-17.3	27	14.2
700	28	2,984	-8.0	-19.8	27	16.1
650	28	3,557	-10.9	-22.[illegible]	27	18.4
600	28	4,168	-14.4	-27.2	27	20.6
550	28	4,823	-18.1	-31.6	27	22.6
500	28	5,528	-22.8	-35.4	27	24.7
450	28	6,293	-27.[illegible]	-39.3	27	25.9
400	27	7,126	-34.1	-44.8	27	29.2
350	27	8,051	-40.5	-48.4	27	32.1
300	27	9,083	-47.4		27	34.4
250	27	10,270	-53.6		27	39.0
200	27	11,696	-55.4		27	41.2
175	27	12,550	-54.6		26	39.3
150	27	13,535	-55.8		27	37.7
125	27	14,688	-58.[illegible]		27	32.8
100	27	16,079	-61.7		27	27.7
80	27	17,454	-63.6		27	21.2
70	26	18,275	-63.3		27	19.6
60	24	19,229	-61.9		27	14.7
50	23	20,359	-60.9		27	12.[illegible]
40	23	21,749	-60.0		27	11.6
30	23	23,555	-58.1		27	13.2
25	22	24,710	-55.9		26	15.0
20	22	26,140	-52.9		26	18.2
15	22	28,016	-48.7		26	22.8
10	21	30,718	-42.6		25	32.4
	5	33,170	-39.6			

* NOME, AK
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	5	-8.1	-14.3	05	4.5
1000	12	50	-11.6	-18.5	04	4.3
950	28	386	-7.3	-12.0	08	5.8
900	28	807	-8.2	-12.1	09	5.6
850	28	1,250	-8.9	-13.6	10	5.9
800	28	1,718	-11.1	-17.3	11	5.4
750	28	2,211	-13.8	-21.3	12	4.6
700	28	2,732	-16.9	-24.7	12	4.2
650	28	3,285	-20.4	-28.8	14	4.5
600	28	3,874	-24.1	-32.4	14	4.8
550	28	4,503	-28.2	-36.6	15	5.3
500	28	5,180	-33.1	-41.7	16	6.0
450	28	5,913	-38.5	-45.7	15	7.0
400	27	6,711	-44.4		16	7.2
350	27	7,596	-50.6		16	8.2
300	27	8,583	-56.8		17	8.6
250	26	9,734	-57.7		17	9.2
200	25	11,159	-52.6		17	9.1
175	25	12,025	-51.3		17	8.5
150	25	13,030	-50.2		18	8.7
125	24	14,223	-49.9		18	7.8
100	23	15,685	-49.7		19	7.3
80	23	17,146	-49.6		20	6.3
70	23	18,021	-49.7		20	6.7
60	23	19,029	-50.3		21	6.0
50	22	20,208	-51.0		22	6.4
40	21	21,652	-51.2		24	5.7
30	20	23,527	-52.0		26	6.6
25	19	24,721	-51.9		27	6.6
20	16	26,189	-51.7		28	7.5
15	10	28,144	-49.5			

NORTH PLATTE, NE
917 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	847	-6.4	-10.2	31	1.7
900	26	1,011	.0	-7.1	30	5.0
850	28	1,455	1.8	-8.5	32	9.8
800	28	1,942	-1.1	-11.1	33	11.9
750	28	2,454	-4.2	-14.3	33	12.7
700	28	2,995	-7.2	-17.3	32	13.3
650	28	3,569	-10.8	-21.0	32	14.4
600	28	4,180	-14.8	-25.1	32	15.0
550	28	4,833	-19.1	-28.9	32	15.7
500	28	5,535	-24.0	-34.6	31	16.2
450	28	6,296	-29.6	-39.1	31	16.6
400	28	7,125	-35.9	-43.5	31	17.1
350	28	8,043	-42.5	-44.9	31	17.9
300	28	9,065	-49.6		31	20.1
250	28	10,242	-55.5		31	20.4
200	27	11,655	-57.5		30	20.0
175	27	12,501	-56.2		30	19.7
150	27	13,484	-55.2		30	17.9
125	27	14,646	-56.4		30	18.0
100	27	16,055	-59.1		29	14.6
80	27	17,449	-60.7		30	13.3
70	26	18,278	-60.8		30	11.4
60	26	19,237	-60.9		30	10.2
50	26	20,372	-60.3		31	8.6
40	26	21,764	-60.3		30	6.7
30	26	23,558	-60.0		30	7.8
25	24	24,699	-59.8		30	7.7
20	22	26,103	-57.8		29	8.1
15	18	27,937	-55.4		29	9.4

OAKLAND, CA
1022 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	6	8.4	6.9	08	.1
1000	28	184	10.7	6.8	01	.4
950	28	612	11.2	.6	35	1.6
900	28	1,063	10.1	-3.4	31	2.1
850	28	1,536	7.9	-7.[illegible]	29	3.7
800	28	2,034	5.5	-10.8	29	4.6
750	28	2,559	2.7	-15.0	29	5.4
700	28	3,113	-.6	-17.8	29	6.4
650	28	3,701	-4.4	-21.0	30	8.[illegible]
600	28	4,327	-8.4	-23.2	30	9.7
550	28	4,996	-12.8	-26.4	29	11.6
500	28	5,716	-17.9	-31.[illegible]	29	14.0
450	28	6,495	-23.7	-34.4	29	16.7
400	28	7,344	-30.3	-38.9	29	18.5
350	28	8,283	-37.5	-45.8	29	21.2
300	28	9,325	-45.9		29	24.1
250	28	10,515	-54.7		29	27.6
200	28	11,921	-60.7		29	30.0
175	28	12,753	-60.3		29	30.6
150	28	13,715	-60.3		29	24.[illegible]
125	28	14,849	-61.[illegible]		29	23.9
100	27	16,217	-64.9		29	16.[illegible]
80	27	17,574	-66.2		30	10.9
70	27	18,385	-65.6		30	8.5
60	26	19,325	-64.7		31	6.4
50	25	20,440	-63.8		32	4.2
40	24	21,811	-63.1		35	3.4
30	23	23,583	-61.7		34	3.5
25	21	24,729	-59.9		32	3.7
20	19	26,129	-57.5		30	4.7
15	17	27,960	-54.3		28	10.[illegible]
10	7	30,573	-46.7			
7						

OMAHA, NE
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	403	-4.0	-8.0	32	1.0
1000						
950	25	569	-2.5	-8.6	31	3.[illegible]
900	28	974	-1.6	-9.0	31	7.2
850	28	1,429	-2.6	-13.3	31	9.[illegible]
800	28	1,909	-3.7	-16.6	31	11.6
750	28	2,416	-6.0	-18.9	31	13.1
700	28	2,953	-9.1	-21.5	31	13.5
650	28	3,523	-12.[illegible]	-23.9	31	14.3
600	28	4,130	-16.1	-27.4	31	15.7
550	28	4,781	-20.0	-31.3	31	16.[illegible]
500	28	5,481	-24.8	-34.8	31	18.3
450	28	6,239	-30.1	-40.1	31	18.4
400	28	7,067	-36.3	-45.4	31	18.[illegible]
350	28	7,983	-43.0		30	20.6
300	27	9,003	-49.6		30	22.2
250	27	10,181	-55.4		30	23.4
200	27	11,597	-56.3		29	23.4
175	27	12,449	-54.6		29	21.[illegible]
150	27	13,438	-54.2		29	19.[illegible]
125	27	14,603	-55.8		29	19.2
100	27	16,015	-58.4		29	16.4
80	27	17,413	-60.0		29	14.[illegible]
70	27	18,246	-60.[illegible]		29	12.5
60	27	19,207	-60.6		29	10.[illegible]
50	27	20,342	-60.9		30	9.8
40	25	21,736	-60.[illegible]		30	[illegible].6
30	24	23,543	-59.5		30	8.5
25	23	24,680	-59.3		29	[illegible]
20	23	26,081	-58.2		29	10.7
15	20	27,894	-55.5		28	16.1
10	8	30,518	-49.6			

PAGO PAGO, AMERICAN SAMOA
+ 1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	5	30.4	24.7	07	3.2
1000	28	89	28.3	23.5	07	3.6
950	28	544	24.3	21.4	05	3.9
900	28	1,016	21.1	17.7	05	4.2
850	28	1,510	18.4	12.5	05	4.1
800	28	2,029	15.9	9.[illegible]	05	4.1
750	28	2,576	13.5	4.[illegible]	06	3.8
700	28	3,155	10.6	.1	06	3.7
650	28	3,769	7.[illegible]	-3.[illegible]	07	3.8
600	28	4,424	3.6	-7.0	07	3.8
550	28	5,126	-.1	-13.4	07	2.9
500	28	5,883	-4.5	-17.4	09	3.0
450	28	6,706	-9.0	-23.7	10	2.4
400	28	7,608	-14.7	-30.2	11	2.1
350	28	8,609	-21.[illegible]	-35.5	13	2.4
300	27	9,723	-29.9	-42.[illegible]	15	3.9
250	27	10,995	-40.2	-51.4	17	5.7
200	27	12,477	-52.7		18	7.7
175	27	13,326	-59.8		18	8.6
150	27	14,272	-67.5		18	8.3
125	27	15,349	-75.3		18	6.4
100	27	16,619	-81.3		17	5.8
80	27	17,873	-79.4		11	6.2
70	27	18,638	-76.5		09	9.4
60	27	19,534	-72.7		09	13.3
50	27	20,620	-67.4		09	16.6
40	26	21,986	-61.[illegible]		09	20.5
30	24	23,795	-55.9		09	25.7
25	23	24,967	-53.1		09	28.4
20	20	26,415	-49.8		09	31.4
15	16	28,302	-45.5		09	32.9
10	14	31,021	-40.1		09	32.4
7	9	33,472	-36.1			

* PEORIA, IL
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	200	-5.7	-9.6	26	1.7
1000	5	232	-16.2	-19.3		
950	28	534	-3.0	-7.5	29	[illegible].4
900	28	962	-4.3	-10.6	29	[illegible].5
850	28	1,411	-5.7	-14.1	29	[illegible].8
800	28	1,885	-6.7	-17.9	29	11.6
750	28	2,388	-8.4	-21.2	29	12.4
700	28	2,921	-10.6	-23.0	29	13.7
650	28	3,488	-13.6	-24.9	29	14.8
600	28	4,093	-17.1	-27.7	29	16.[illegible]
550	28	4,740	-21.1	-31.4	29	18.0
500	28	5,437	-26.2	-35.2	29	19.5
450	28	6,191	-31.4	-40.9	29	21.1
400	28	7,015	-37.3	-45.2	28	23.1
350	27	7,933	-43.[illegible]	-46.7	29	25.3
300	27	8,954	-49.6		29	27.3
250	26	10,139	-54.4		29	30.0
200	24	11,568	-55.4		28	29.4
175	24	12,424	-53.7		27	27.[illegible]
150	23	13,409	-53.9		28	25.6
125	22	14,570	-55.9		27	23.2
100	22	15,980	-58.6		28	20.3
80	22	17,377	-60.5		28	16.3
70	22	18,207	-61.4		28	14.6
60	21	19,160	-61.0		28	13.7
50	21	20,293	-61.0		29	12.5
40	20	21,681	-61.0		28	12.1
30	18	23,487	-59.3		28	12.9
25	17	24,629	-58.4		27	13.3
20	14	26,034	-56.4		27	16.1
15	10	27,898	-53.1		27	20.3
10	[illegible]	30,536	-43.4			

* PITTSBURGH, PA
972 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	359	-4.5	-9.9	24	3.7
1000						
950	28	537	-4.1	-8.3	25	6.0
900	28	963	-5.7	-10.2	26	10.6
850	28	1,410	-7.1	-12.3	27	13.6
800	28	1,881	-9.1	-13.5	27	15.2
750	28	2,379	-11.0	-16.0	27	16.4
700	28	[illegible],907	-12.7	-19.9	27	18.0
650	28	3,470	-15.2	-23.7	27	19.2
600	28	4,072	-18.4	-27.6	27	21.0
550	28	4,716	-22.2	-31.3	27	22.7
500	28	5,411	-26.7	-36.2	27	24.2
450	28	6,163	-32.0	-40.0	27	26.2
400	28	[illegible],986	-37.6	-43.1	27	29.1
350	27	7,905	-43.[illegible]	-41.2	27	30.9
300	26	[illegible],930	-49.1		27	33.6
250	26	10,115	-53.1		27	36.0
200	26	11,547	-54.0		26	35.2
175	26	12,407	-53.1		27	33.3
150	26	13,399	-54.1		27	31.6
125	26	14,565	-56.0		27	30.5
100	26	15,974	-58.2		27	26.4
80	25	17,375	-60.0		27	20.6
70	25	18,209	-59.9		27	18.3
60	23	19,171	-59.6		27	16.9
50	22	20,317	-59.5		27	14.2
40	22	21,716	-58.8		27	13.7
30	22	23,527	-57.5		27	13.9
25	21	24,694	-56.7		27	13.3
20	19	26,121	-54.5		26	17.4
15	13	27,961	-50.3		26	23.8

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	39	28.7	22.3	07	4.0
1000	28	83	27.0	21.1	07	4.9
950	28	535	23.0	19.[illegible]	07	9.2
900	28	1,005	19.3	15.7	07	11.4
850	28	1,495	16.3	10.4	08	10.9
800	28	2,012	17.0	-.[illegible]	09	[illegible].1
750	28	2,560	14.[illegible]	-3.5	09	7.4
700	28	3,139	11.1	-6.9	10	[illegible].9
650	28	3,754	7.5	-10.1	10	[illegible].6
600	28	4,409	4.[illegible]	-13.[illegible]	09	12.2
550	28	5,112	.5	-17.3	09	13.[illegible]
500	28	5,870	-4.0	-22.1	10	15.4
450	28	6,695	-8.3	-25.9	09	16.7
400	28	7,599	-14.0	-32.2	10	14.4
350	28	8,603	-20.7	-37.[illegible]	09	11.9
300	28	9,721	-29.3	-44.1	09	9.[illegible]
250	28	10,996	-39.7	-51.8	11	9.[illegible]
200	28	12,483	-51.7		12	9.[illegible]
175	28	13,335	-58.7		11	10.5
150	28	14,286	-66.7		10	11.[illegible]
125	28	15,366	-74.9		10	14.3
100	28	16,633	-83.0		10	18.2
80	28	17,877	-79.8		10	7.1
70	28	18,643	-74.9		07	1.0
60	28	19,545	-71.7		28	1.9
50	28	20,633	-66.5		09	3.0
40	27	21,999	-63.1		09	15.0
30	27	23,798	-56.7		09	25.2
25	27	24,962	-53.4		09	27.1
20	27	26,413	-49.3		09	28.4
15	24	28,326	-43.0		09	23.7
10	16	31,070	-39.8		10	8.5

PORTLAND, ME
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	20	-8.0	-11.3	31	.9
1000	21	121	-5.[illegible]	-10.9	29	1.8
950	28	485	-6.6	-11.3	29	3.4
900	28	906	-8.3	-12.5	28	4.2
850	28	1,349	-9.0	-14.6	28	[illegible].4
800	28	1,818	-10.7	-16.1	27	8.3
750	28	2,312	-12.6	-18.2	27	10.6
700	28	2,836	-15.0	-21.4	27	12.[illegible]
650	28	3,395	-17.7	-25.3	27	15.3
600	28	3,990	-20.8	-29.7	27	17.1
550	28	4,629	-24.3	-34.5	27	19.7
500	28	5,317	-28.7	-38.1	26	21.4
450	28	6,064	-34.0	-41.7	26	23.8
400	28	6,879	-39.9	-45.8	26	26.1
350	27	7,790	-44.6		26	30.5
300	27	8,805	-50.4		26	31.9
250	27	9,987	-52.7		26	31.1
200	27	11,426	-52.7		27	29.4
175	27	12,290	-51.9		26	24.8
150	27	13,288	-52.6		26	25.5
125	27	14,461	-54.2		26	25.9
100	27	15,884	-56.8		26	23.3
80	27	17,292	-58.1		26	21.9
70	27	18,134	-57.8		26	19.6
60	26	19,099	-58.1		27	18.4
50	25	20,237	-58.2		26	17.4
40	25	21,644	-57.5		26	16.5
30	25	23,464	-56.3		26	18.4
25	25	24,625	-55.4		26	19.3
20	25	26,052	-54.3		25	21.[illegible]
15	22	27,917	-50.3		25	30.1
10	13	30,591	-44.0			

* QUILLAYUTE, WA
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	58	5.6	4.3	13	1.5
1000	26	168	6.5	3.6	15	2.9
950	28	579	6.3	.5	18	6.7
900	28	1,021	3.[illegible]	-1.4	19	8.7
850	28	1,483	1.5	-6.[illegible]	21	9.5
800	28	1,970	-1.[illegible]	-9.9	21	9.8
750	28	2,482	-3.7	-15.[illegible]	22	10.0
700	28	3,024	-6.8	-16.8	23	9.0
650	28	3,599	-10.0	-20.1	23	9.[illegible]
600	28	4,212	-13.[illegible]	-22.2	24	11.7
550	28	4,869	-17.8	-26.[illegible]	24	13.0
500	28	5,575	-22.5	-30.8	24	13.8
450	28	6,341	-27.8	-36.0	25	15.0
400	28	7,176	-34.4	-41.4	25	15.2
350	28	8,098	-42.0	-46.0	25	16.1
300	28	9,120	-50.3		25	17.6
250	28	10,289	-57.7		26	19.[illegible]
200	28	11,684	-60.5		27	17.7
175	28	12,520	-58.6		27	17.0
150	28	13,494	-56.6		26	15.8
125	26	14,651	-56.3		27	13.6
100	24	16,056	-58.4		27	10.9
80	23	17,454	-60.2		28	8.4
70	23	18,288	-59.8		28	8.1
60	23	19,252	-59.[illegible]		29	5.7
50	23	20,391	-59.8		31	4.2
40	18	21,778	-60.2		31	4.7
30	17	23,581	-60.4		34	4.1
25	16	24,727	-59.7		36	4.1
20	13	26,118	-59.4		36	5.0
15	8	27,911	-58.9			

RAPID CITY, SD
904 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	966	-1.6	-6.8	33	4.7
900	24	1,024	.1	-7.1	33	5.3
850	28	1,461	.5	-8.6	33	11.8
800	28	1,945	-2.5	-10.7	33	15.6
750	28	2,454	-5.5	-14.3	33	16.[illegible]
700	28	2,993	-8.7	-19.6	33	16.3
650	28	3,564	-11.6	-23.2	32	16.2
600	28	4,173	-15.6	-26.3	32	15.4
550	28	4,824	-19.6	-30.7	32	16.2
500	28	5,525	-24.3	-35.0	33	17.1
450	28	6,285	-29.9	-39.6	33	18.6
400	28	7,113	-36.2	-43.3	32	19.5
350	28	8,029	-43.2		32	19.[illegible]
300	28	9,047	-50.9		32	20.8
250	27	10,216	-57.1		32	20.6
200	27	11,618	-59.4		32	20.4
175	27	12,458	-56.7		31	17.9
150	27	13,442	-54.8		31	15.9
125	27	14,604	-56.4		30	16.0
100	27	16,014	-58.6		31	14.4
80	27	17,411	-59.9		31	11.8
70	26	18,245	-60.4		31	11.3
60	22	19,207	-60.0		32	8.7
50	22	20,345	-60.3		32	8.2
40	20	21,733	-60.9		32	[illegible].3
30	19	23,529	-60.4		33	7.7
25	17	24,677	-60.3		33	6.5
20	14	26,071	-59.0		31	9.1
15	7	27,951	-57.5			

ST CLOUD, MN
977 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	316	-9.7	-13.0	31	1.2
950	27	538	-8.0	-11.7	31	3.7
900	28	949	-7.5	-13.1	31	5.9
850	28	1,395	-7.7	-14.6	32	7.7
800	28	1,865	-9.0	-16.1	32	9.6
750	28	2,363	-11.0	-18.2	32	12.2
700	28	2,891	-13.[illegible]	-20.9	31	13.7
650	28	3,453	-15.9	-24.0	31	14.6
600	28	4,053	-19.1	-27.5	31	15.4
550	28	4,695	-23.2	-31.7	31	16.3
500	28	[illegible],387	-27.9	-36.6	31	17.4
450	28	[illegible],136	-33.0	-40.6	32	18.3
400	28	6,955	-38.5	-43.4	32	20.5
350	28	7,863	-45.0		31	20.6
300	28	8,875	-51.3		31	22.0
250	28	10,048	-55.7		31	19.5
200	27	11,468	-55.4		30	19.3
175	27	12,324	-53.6		30	17.9
150	27	13,316	-53.3		30	17.3
125	27	14,489	-54.4		30	16.5
100	27	15,910	-57.1		30	15.4
80	26	17,320	-59.0		30	13.2
70	26	18,157	-59.0		31	12.7
60	25	19,136	-59.3		30	10.7
50	23	20,272	-59.5		31	10.0
40	21	21,676	-60.1		31	8.3
30	20	23,481	-60.1		31	9.2
25	20	24,620	-59.9		30	8.9
20	17	26,029	-59.4		30	9.2
15	9	27,828	-59.0			

RAWINSONDE DATA

Average monthly values

FEBRUARY 1977

* ST PAUL ISLAND, AK
986 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	26	10	-2.3	-5.2	02	3.6
1000						
950	26	306	-4.2	-5.6	03	3.4
900	26	731	-6.0	-7.3	08	2.4
850	26	1,176	-8.5	-11.0	10	3.2
800	26	1,645	-11.2	-15.6	11	3.7
750	26	2,138	-13.9	-18.7	11	4.5
700	26	2,658	-17.4	-23.6	12	5.2
650	26	3,[illegible]	-21.1	-27.9	12	5.4
600	26	3,796	-25.5	-32.4	12	5.1
550	26	4,421	-30.2	-38.6	13	5.2
500	26	5,092	-35.3	-43.0	13	5.6
450	26	5,818	-40.2	-46.0	13	6.5
400	26	6,613	-45.6		14	7.0
350	26	7,495	-50.9		15	7.6
300	26	8,486	-54.6		15	8.6
250	26	9,653	-53.7		16	8.4
200	26	11,099	-50.9		17	7.9
175	26	11,970	-49.9		16	8.2
150	26	12,981	-48.7		17	7.7
125	26	14,181	-48.2		17	7.9
100	25	15,651	-47.9		18	7.4
80	25	17,124	-47.9		18	7.3
70	25	18,004	-48.3		18	6.6
60	25	19,019	-48.9		18	6.5
50	25	20,215	-49.3		18	6.0
40	25	21,676	-50.[illegible]		18	5.5
30	24	23,558	-50.3		16	3.1
25	24	24,750	-49.8		17	1.6
20	24	26,211	-49.9		04	.5
15	22	28,120	-48.8		01	3.0
10	12	30,897	-43.9			

SALEM, IL
995 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	174	-2.3	-7.0	24	2.0
1000	12	205	-6.2	-10.4	23	1.6
950	28	545	-.8	-7.6	27	[illegible].0
900	28	976	-2.4	-9.6	28	8.3
850	28	1,428	-3.7	-12.9	28	10.6
800	28	1,906	-5.4	-15.4	28	12.2
750	28	2,412	-6.9	-17.5	28	13.2
700	28	2,948	-9.2	-20.6	29	15.0
650	28	3,518	-12.0	-23.2	29	16.6
600	28	4,127	-15.5	-27.1	29	18.7
550	28	4,778	-19.9	-32.1	28	20.[illegible]
500	28	5,478	-24.8	-36.1	28	21.8
450	28	6,237	-30.1	-40.5	28	22.1
400	28	7,065	-35.9	-45.8	27	23.6
350	28	7,983	-42.1	-46.6	28	26.4
300	28	9,010	-48.5		27	27.6
250	28	10,194	-53.7		27	28.6
200	28	11,621	-55.1		27	30.1
175	28	12,476	-54.0		27	30.1
150	28	13,466	-54.2		27	29.2
125	27	14,626	-56.5		27	26.7
100	27	16,033	-59.5		27	21.7
80	27	17,424	-60.8		27	15.3
70	27	18,254	-61.4		27	13.9
60	27	19,210	-61.2		28	13.7
50	27	20,344	-60.7		28	12.0
40	27	21,732	-60.4		28	10.5
30	25	23,525	-58.7		27	12.2
25	25	24,674	-57.5		27	13.1
20	24	26,098	-54.7		27	17.1
15	23	27,953	-50.9		26	21.[illegible]
10	16	30,647	-44.4		26	34.6

SALEM, OR
1014 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	61	3.6	1.3	21	1.7
1000	27	183	6.0	3.8	20	2.3
950	28	599	7.0	1.6	21	4.2
900	28	1,043	6.1	-2.3	21	6.3
850	28	1,509	4.0	-6.6	22	8.0
800	28	2,000	1.3	-10.2	23	8.7
750	28	2,517	-1.6	-13.9	23	9.2
700	28	3,063	-4.[illegible]	-16.1	24	9.5
650	28	3,642	-8.2	-19.1	25	10.0
600	28	4,259	-12.1	-23.0	25	11.2
550	28	4,919	-16.6	-26.[illegible]	25	11.6
500	28	5,628	-21.[illegible]	-31.1	26	11.5
450	28	6,396	-27.1	-36.2	26	11.7
400	28	7,234	-33.4	-40.1	26	13.0
350	28	8,160	-40.8	-47.[illegible]	26	13.0
300	28	9,188	-49.0		27	15.9
250	28	10,364	-56.8		28	17.6
200	27	11,754	-61.1		28	19.6
175	27	12,587	-59.1		29	17.9
150	27	13,557	-57.6		28	18.6
125	27	14,710	-57.7		28	16.9
100	27	16,111	-60.0		29	12.4
80	26	17,501	-61.1		29	8.9
70	26	18,331	-60.9		30	7.1
60	26	19,290	-60.[illegible]		30	5.2
50	26	20,425	-60.5		31	4.1
40	26	21,814	-60.[illegible]		33	3.7
30	25	23,603	-60.7		01	4.4
25	23	24,745	-60.[illegible]		02	4.5
20	22	26,138	-59.0		01	4.7
15	20	27,939	-58.1		34	6.1
10	[illegible]	30,459	-56.3			

SALT LAKE CITY, UT
877 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	1,288	-2.4	-6.1	15	2.1
1000						
950						
900						
850	28	1,537	.9	-7.5	19	1.5
800	28	2,023	-.8	-10.4	29	2.1
750	28	2,536	-3.5	-13.6	31	4.3
700	28	3,078	-6.7	-17.8	31	6.5
650	28	3,654	-9.7	-22.0	31	7.9
600	28	4,267	-13.3	-25.8	31	9.0
550	28	4,924	-17.8	-30.5	31	9.7
500	28	5,630	-22.9	-34.9	31	10.7
450	28	6,393	-28.9	-39.1	31	12.2
400	28	7,225	-35.0	-44.4	31	14.9
350	28	8,146	-41.9	-48.7	31	16.2
300	28	9,170	-49.3		31	17.2
250	28	10,345	-56.6		31	17.8
200	28	11,745	-60.3		31	20.5
175	28	12,580	-58.9		30	20.1
150	27	13,548	-57.4		30	20.1
125	26	14,700	-59.2		30	18.2
100	26	16,090	-61.3		30	15.3
80	25	17,465	-63.0		30	10.[illegible]
70	25	18,287	-62.9		31	7.[illegible]
60	25	19,236	-63.2		32	7.[illegible]
50	24	20,360	-62.3		33	6.[illegible]
40	24	21,739	-61.9		34	4.5
30	21	23,532	-60.7		36	3.6
25	20	24,675	-59.6		34	3.[illegible]
20	18	26,086	-57.6		32	4.4
15	12	27,932	-55.4		31	4.[illegible]
10						

SAN DIEGO, CA
1004 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	124	9.8	5.5	05	1.0
1000	28	157	12.6	3.8	04	1.1
950	28	591	15.9	-1.3	36	1.7
900	28	1,048	13.9	-5.8	35	2.4
850	28	1,527	11.1	-9.6	34	2.9
800	28	2,030	8.2	-12.2	34	3.2
750	28	2,560	4.8	-14.[illegible]	33	4.6
700	28	3,118	1.4	-17.8	32	6.4
650	28	3,711	-2.0	-21.1	31	8.2
600	27	4,340	-6.2	-24.4	31	10.4
550	27	5,015	-10.9	-28.6	31	12.4
500	27	5,739	-16.5	-33.4	31	14.3
450	26	6,519	-22.4	-37.1	31	17.0
400	26	7,373	-29.0	-42.[illegible]	30	18.9
350	26	[illegible],317	-36.1	-48.4	30	20.5
300	26	9,366	-44.2		30	23.3
250	26	10,566	-52.4		30	26.0
200	25	11,980	-58.5		30	27.2
175	25	12,819	-58.8		29	28.4
150	25	13,784	-60.2		28	28.9
125	24	14,923	-63.0		28	26.2
100	23	16,285	-67.0		29	19.5
80	22	17,625	-68.5		30	13.2
70	22	18,427	-67.6		30	9.9
60	22	19,359	-66.5		30	7.5
50	22	20,467	-64.7		31	4.9
40	22	21,836	-62.7		32	4.6
30	21	23,622	-59.6		28	6.2
25	21	24,770	-57.0		27	9.1
20	18	26,183	-53.4		27	13.6
15	17	28,045	-50.0		26	21.8
10						

SAN JUAN, P. R.
1017 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	6	21.0	19.6	11	1.8
1000	28	150	22.0	18.7	11	4.0
950	28	595	19.3	15.6	11	7.2
900	28	1,052	16.3	12.1	11	7.7
850	28	1,543	13.2	8.4	11	6.9
800	28	2,051	10.4	3.7	11	6.1
750	28	2,588	10.5	-8.7	11	5.5
700	28	3,161	9.4	-13.0	13	4.5
650	28	3,772	6.5	-15.3	13	4.1
600	28	4,425	3.1	-18.3	14	4.1
550	28	5,124	-1.1	-21.[illegible]	15	3.6
500	28	5,877	-6.0	-25.9	18	2.7
450	27	6,694	-11.5	-30.4	20	3.2
400	27	7,585	-18.[illegible]	-36.0	24	2.6
350	27	8,571	-25.6	-42.3	28	4.3
300	27	9,667	-34.0	-49.4	29	4.9
250	27	10,918	-43.7		30	6.5
200	27	12,382	-54.6		30	9.8
175	27	13,226	-60.4		31	10.8
150	27	14,173	-66.2		30	10.7
125	27	15,265	-71.2		30	9.0
100	27	16,565	-76.9		30	5.6
80	27	17,835	-80.1		28	1.9
70	27	18,594	-78.0		25	.4
60	27	19,484	-73.9		13	.9
50	27	20,570	-65.5		09	1.5
40	27	21,948	-59.5		07	3.7
30	27	23,768	-54.[illegible]		10	7.5
25	26	24,939	-53.1		11	9.1
20	24	26,392	-49.6		11	9.1
15	24	28,286	-46.7		12	5.0
10	19	31,007	-40.9		11	5.8
7	8	33,450	-40.4			

SAN NICOLAS, AK
1003 MB

* SAULT STE MARIE, MI
983 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	221	-10.8	-13.1	32	.6
1000						
950	28	486	-10.2	-12.2	30	2.1
900	28	902	-11.2	-13.[illegible]	30	4.2
850	28	1,341	-11.6	-15.1	30	6.0
800	28	1,805	-12.6	-16.[illegible]	30	7.1
750	28	2,296	-14.1	-19.2	30	7.4
700	28	2,818	-16.6	-21.1	30	8.6
650	28	3,372	-19.1	-23.6	30	9.[illegible]
600	28	3,964	-22.2	-26.9	30	10.2
550	28	4,599	-26.1	-31.[illegible]	29	10.8
500	28	5,282	-30.7	-35.9	29	11.[illegible]
450	28	6,023	-35.4	-40.[illegible]	30	12.7
400	28	6,834	-41.1	-44.4	29	14.9
350	28	7,732	-46.9		29	16.2
300	28	8,740	-51.8		28	18.[illegible]
250	28	9,915	-54.1		28	19.6
200	28	11,348	-52.8		29	19.3
175	27	12,201	-51.8		29	19.1
150	27	13,200	-52.1		29	18.6
125	27	14,377	-53.8		29	17.[illegible]
100	27	15,804	-55.5		29	16.3
80	27	17,220	-57.3		29	15.2
70	27	18,062	-58.2		29	14.0
60	27	19,032	-58.7		29	13.4
50	26	20,176	-59.1		29	13.0
40	25	21,567	-60.0		28	12.5
30	25	23,362	-59.6		29	14.9
25	22	24,506	-59.1		28	15.9
20	22	25,910	-58.2		28	18.3
15	21	27,720	-56.5		27	21.8
10	19	30,306	-51.2		26	34.0
7	10	32,662	-42.1			

SPOKANE, WA
937 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	720	-.9	-3.2	20	.[illegible]
1000						
950						
900	28	1,044	1.3	-3.8	21	[illegible]
850	28	1,505	1.1	-7.3	25	[illegible].9
800	28	1,991	-1.0	-10.7	25	[illegible].5
750	28	2,503	-3.9	-14.1	26	6.9
700	28	3,045	-6.7	-17.7	28	7.[illegible]
650	28	3,620	-9.8	-21.9	28	8.[illegible]
600	28	4,233	-13.6	-26.1	28	10.9
550	28	4,890	-17.7	-30.4	28	12.1
500	28	5,595	-22.9	-34.9	29	12.6
450	28	6,359	-28.6	-38.0	29	14.3
400	28	7,192	-35.[illegible]	-42.1	30	15.[illegible]
350	28	8,112	-42.1	-45.6	30	17.[illegible]
300	28	9,135	-49.9		31	17.7
250	28	10,307	-57.1		30	19.6
200	28	11,704	-61.1		30	19.[illegible]
175	28	12,537	-59.3		29	15.8
150	28	13,509	-56.[illegible]		29	16.1
125	28	14,667	-57.0		29	15.3
100	28	16,076	-58.6		29	12.4
80	28	17,473	-59.8		30	[illegible].6
70	28	18,308	-59.[illegible]		30	8.4
60	27	19,270	-60.2		31	8.4
50	27	20,407	-60.6		32	6.7
40	26	21,792	-60.[illegible]		33	5.8
30	25	23,580	-61.0		34	6.7
25	23	24,713	-61.2		34	7.2
20	22	26,109	-60.3		34	7.9
15	17	27,914	-59.8		32	[illegible].7
10	8	30,569	-56.[illegible]			
7						

TAMPA BAY, FL
1018 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	[illegible]	9.5	7.7	05	.7
1000	28	165	12.2	[illegible].1	07	1.6
950	28	596	12.3	1.4	18	1.0
900	28	1,048	10.8	-.3	26	3.6
850	28	1,523	9.3	-4.1	27	5.4
800	28	2,025	7.7	-7.4	26	7.7
750	28	2,554	5.3	-9.9	26	10.3
700	28	3,115	2.0	-12.6	26	12.9
650	28	3,709	-1.1	-15.7	26	15.4
600	28	4,344	-4.7	-17.[illegible]	26	18.7
550	28	5,023	-8.9	-22.[illegible]	26	21.2
500	28	5,755	-13.5	-29.1	26	23.9
450	28	6,549	-18.3	-33.1	25	27.1
400	28	7,418	-24.2	-37.3	26	30.0
350	28	[illegible],382	-30.7	-42.3	25	36.5
300	28	9,456	-38.7	-47.6	26	41.2
250	28	10,685	-47.3		26	45.5
200	28	12,133	-55.3		26	47.9
175	28	12,976	-59.7		26	47.6
150	28	13,932	-62.7		26	41.8
125	28	15,043	-67.6		26	37.4
100	28	16,370	-72.2		26	26.4
80	28	17,679	-72.8		26	18.0
70	28	18,467	-71.1		26	16.4
60	28	19,385	-68.4		26	12.3
50	28	20,492	-63.7		26	10.1
40	28	21,875	-59.6		27	3.6
30	27	23,689	-56.2		30	2.4
25	27	24,854	-53.7		30	3.8
20	27	25,300	-50.6		08	.4
15	27	28,186	-47.9		13	1.4
10	21	30,896	-43.7		24	6.2
7						

TOPEKA, KS
986 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	268	-1.4	-5.8	27	1.0
1000						
950	28	562	1.2	-5.0	31	5.7
900	28	997	.3	-7.6	31	7.4
850	28	1,454	-1.0	-11.1	31	8.3
800	28	1,936	-2.6	-15.0	31	10.1
750	28	2,446	-5.1	-18.1	30	11.4
700	28	2,985	-8.0	-21.4	30	12.8
650	28	3,558	-11.1	-23.2	31	13.9
600	28	4,168	-14.7	-26.1	30	15.5
550	28	4,822	-18.9	-31.7	30	17.4
500	28	5,525	-23.7	-36.0	29	17.7
450	28	6,287	-29.0	-39.9	29	17.9
400	28	7,118	-35.3	-45.3	29	21.7
350	28	8,038	-41.9	-51.6	29	23.4
300	28	9,064	-49.0		29	25.1
250	28	10,242	-55.6		29	23.0
200	27	11,656	-56.8		28	24.8
175	26	12,508	-54.9		28	24.7
150	26	13,494	-55.2		28	23.2
125	26	14,653	-56.9		28	21.1
100	26	16,059	-59.5		28	18.2
80	24	17,445	-60.9		28	16.1
70	24	18,275	-61.5		29	13.5
60	23	19,233	-61.1		29	11.6
50	23	20,366	-60.8		29	9.7
40	23	21,754	-60.8		28	9.0
30	20	23,558	-59.7		29	8.0
25	20	24,702	-58.3		28	9.6
20	18	26,117	-56.9		28	12.0
15	14	27,970	-52.9		27	16.7
10	9	30,641	-46.1			
7						

TRUK, CAROLINE IS.
+ 1011 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	2	27.9	22.4	05	6.1
1000	28	98	26.9	22.0	06	[illegible].2
950	28	550	23.1	19.9	07	10.1
900	28	1,021	20.0	15.8	07	10.7
850	28	1,512	17.6	11.0	08	9.6
800	28	2,030	17.0	1.4	09	8.0
750	28	2,578	14.4	-1.1	09	8.7
700	28	3,158	11.8	-5.8	09	[illegible].3
650	28	3,774	8.4	-8.1	09	9.9
600	28	4,431	4.9	-11.8	09	11.3
550	28	5,136	.9	-16.4	10	13.2
500	28	5,896	-3.4	-20.1	10	14.3
450	28	6,722	-8.1	-24.7	10	15.3
400	28	7,627	-13.6	-30.5	10	13.1
350	28	8,633	-20.4	-37.0	10	11.4
300	28	9,752	-28.9	-44.0	10	10.1
250	28	11,028	-39.4	-51.2	12	9.7
200	28	12,515	-51.9		12	11.2
175	28	13,367	-58.7		12	11.0
150	28	14,318	-66.5		11	12.[illegible]
125	28	15,378	-75.1		10	14.[illegible]
100	27	16,664	-83.0		10	18.6
80	27	17,909	-80.0		10	7.9
70	27	18,675	-75.2		10	.9
60	27	19,575	-72.4		29	2.1
50	27	20,660	-67.1		09	2.[illegible]
40	27	22,024	-62.8		09	14.2
30	27	23,821	-56.9		09	24.0
25	23	24,989	-53.3		09	26.3
20	22	26,438	-48.5		10	27.0
15	21	28,339	-45.1		09	24.8
10	12	31,065	-40.8			
7						

* TUCSON, AZ
927 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	789	7.8	-2.6	14	2.1
1000						
950						
900	28	1,033	12.3	-4.8	14	[illegible].4
850	28	1,510	10.3	-7.7	02	1.0
800	28	2,012	[illegible]	-10.1	33	1.6
750	28	2,538	3.[illegible]	-14.2	31	3.2
700	28	3,094	-.[illegible]	-18.0	31	5.2
650	28	3,683	-3.3	-21.[illegible]	31	7.6
600	28	4,310	-7.7	-25.5	31	[illegible].7
550	28	4,981	-12.5	-29.7	30	12.[illegible]
500	28	5,701	-17.7	-33.[illegible]	30	14.5
450	28	6,481	-23.2	-38.4	30	17.4
400	28	7,333	-29.4	-43.6	30	21.1
350	28	8,275	-36.5	-48.[illegible]	30	23.1
300	28	9,322	-44.7		30	26.5
250	28	10,521	-52.4		29	29.0
200	28	11,948	-56.4		29	29.5
175	28	12,793	-57.3		29	31.2
150	28	13,766	-58.8		28	30.1
125	27	14,902	-62.6		28	27.6
100	27	16,265	-66.8		28	19.7
80	26	17,600	-68.[illegible]		29	15.0
70	26	18,402	-67.9		29	11.[illegible]
60	26	19,331	-66.3		29	9.6
50	25	20,443	-63.7		30	5.4
40	25	21,817	-62.2		29	4.[illegible]
30	25	23,608	-58.3		28	7.1
25	24	24,756	-56.7		27	10.1
20	21	26,181	-53.6		27	14.4
15	18	28,063	-50.1		26	20.5
10	8	30,724	-48.1			
7						

* VANDENBERG AFB, CA
1009 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	100	10.0	4.7	02	1.2
1000	28	173	12.2	3.7	02	2.3
950	28	605	14.6	-1.7	01	4.1
900	28	1,061	13.4	-5.3	35	3.[illegible]
850	28	1,539	10.9	-8.9	34	2.5
800	28	2,042	8.0	-11.3	33	3.2
750	28	2,571	4.7	-13.4	33	4.6
700	28	3,130	1.4	-15.6	31	5.9
650	28	3,722	-2.5	-19.1	31	7.2
600	28	4,352	-6.5	-22.4	31	8.3
550	28	5,026	-11.2	-25.5	30	10.1
500	28	5,750	-16.4	-29.8	30	11.8
450	28	6,534	-22.0	-34.8	30	13.6
400	28	7,389	-28.[illegible]	-40.7	30	16.1
350	28	8,334	-36.3	-46.8	30	16.9
300	28	9,382	-44.6		30	19.6
250	28	10,578	-53.2		30	22.6
200	28	11,994	-59.3		30	28.2
175	28	12,828	-60.2		30	26.9
150	26	13,788	-60.1		29	25.8
125	26	14,920	-62.9		29	23.4
100	25	16,280	-66.9		29	18.0
80	24	17,623	-68.1		29	11.9
70	24	18,426	-67.5		30	[illegible].5
60	24	19,358	-66.1		30	6.7
50	23	20,466	-64.5		32	4.7
40	21	21,846	-62.8		32	2.9
30	19	23,624	-60.2		31	3.7
25	18	24,762	-58.7		30	5.1
20	17	26,171	-55.8		28	7.[illegible]
15	17	28,018	-52.3		27	11.7
10	13	30,679	-47.6		27	19.1
7	8	33,075	-42.7			

VICTORIA, TX
1015 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	28	33	9.3	[illegible].7	19	.2
1000	27	158	11.3	5.5	13	1.1
950	28	582	11.7	1.8	18	3.2
900	28	1,033	10.4	-2.[illegible]	23	3.5
850	28	1,508	8.4	-4.[illegible]	26	4.7
800	28	2,006	5.9	-7.9	27	6.0
750	28	2,532	3.0	-11.5	28	7.8
700	28	3,088	.4	-15.4	28	10.8
650	28	3,679	-2.8	-18.5	28	12.9
600	28	4,309	-6.9	-23.5	27	15.2
550	28	4,982	-11.2	-27.5	27	17.9
500	28	5,706	-16.4	-32.6	26	21.0
450	28	6,491	-21.8	-37.[illegible]	27	23.0
400	28	7,347	-28.3	-42.4	27	25.9
350	28	8,293	-35.1	-48.[illegible]	26	30.4
300	28	9,350	-42.1	-49.0	26	35.7
250	28	10,565	-49.3		26	42.5
200	28	12,006	-55.5		26	48.0
175	28	12,853	-58.0		26	46.9
150	28	13,818	-61.2		26	44.5
125	28	14,938	-65.5		26	37.8
100	28	16,281	-69.6		27	28.1
80	28	17,606	-70.5		26	22.2
70	26	18,403	-69.9		27	17.1
60	25	19,325	-67.3		27	13.1
50	25	20,435	-63.3		27	8.9
40	25	21,815	-60.5		26	10.1
30	24	23,624	-56.7		27	10.2
25	24	24,785	-54.8		27	12.7
20	24	26,221	-52.2		28	12.7
15	24	28,097	-48.7		27	11.9
10	20	30,788	-45.2		25	12.5
7						

RAWINSONDE DATA

Average monthly values

* WAKE IS., PACIFIC AREA
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	5	24.4	20.9	07	5.1
1000	28	144	23.5	19.4	07	5.8
950	28	591	19.9	17.0	08	5.9
900	28	1,055	16.7	13.6	09	4.6
850	28	1,542	14.7	8.1	10	3.9
800	28	2,053	13.1	.4	11	3.3
750	28	2,595	12.6	-6.1	10	2.4
700	28	3,172	10.4	-11.2	08	1.0
650	28	3,785	7.9	-14.0	27	1.4
600	28	4,440	4.1	-16.9	28	3.5
550	28	5,142	-.1	-20.0	26	4.4
500	28	5,898	-4.6	-24.7	27	6.0
450	28	6,719	-9.8	-29.0	27	7.4
400	28	7,617	-16.4	-34.5	28	8.1
350	28	8,610	-23.3	-40.4	29	9.6
300	28	9,718	-31.4	-47.2	29	10.9
250	28	10,984	-41.0	-54.2	28	11.0
200	28	12,462	-52.9		28	11.1
175	28	13,310	-59.7		28	11.7
150	28	14,257	-67.1		27	11.5
125	28	15,337	-74.8		27	9.7
100	28	16,608	-82.2		25	7.0
80	28	17,846	-84.3		26	4.5
70	28	18,589	-81.9		27	2.0
60	28	19,469	-74.9		20	.4
50	27	20,551	-66.2		15	.7
40	27	21,923	-60.9		09	.7
30	27	23,727	-57.0		07	4.9
25	27	24,887	-54.9		09	5.9
20	27	26,329	-50.5		08	4.7
15	26	28,224	-46.8		06	5.4
10	26	30,927	-44.6		11	3.5
7	19	33,334	-39.9		23	5.5

* WALLOPS ISLAND, VA NASA
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	4	-.3	-5.1	26	2.5
1000	27	139	2.4	-6.2	28	4.6
950	28	547	1.5	-7.6	28	7.8
900	28	981	-.4	-10.5	28	9.1
850	28	1,437	-2.6	-13.0	27	11.2
800	28	1,917	-4.0	-16.1	27	13.5
750	28	2,424	-6.0	-16.9	27	16.7
700	28	2,962	-8.4	-21.3	27	19.1
650	28	3,534	-11.3	-23.4	26	20.7
600	28	4,144	-14.5	-26.8	26	24.0
550	28	4,798	-18.6	-29.0	26	26.6
500	28	5,502	-23.5	-34.3	26	29.2
450	28	6,265	-28.5	-40.2	26	30.7
400	28	7,099	-34.2	-45.7	26	34.6
350	28	8,025	-40.4	-48.8	26	37.8
300	28	9,058	-46.7		26	42.1
250	28	10,251	-52.8		26	45.7
200	28	11,685	-54.2		26	47.6
175	28	12,543	-54.1		26	44.9
150	28	13,531	-55.0		26	40.9
125	28	14,691	-57.5		26	37.5
100	28	16,090	-61.0		26	31.1
80	28	17,473	-61.8		26	25.9
70	28	18,300	-61.2		26	22.7
60	28	19,258	-60.7		26	20.3
50	28	20,397	-59.3		26	17.0
40	28	21,798	-58.4		26	15.1
30	28	23,617	-55.8		26	15.5
25	27	24,781	-54.2		26	17.6
20	26	26,218	-51.6		26	19.[illegible]
15	26	28,099	-48.2		25	24.6
10	17	30,808	-41.7		26	32.3
7	6	33,226	-37.9			

WASHINGTON DULLES INT. AP
1006 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	85	-3.1	-8.6	28	1.9
1000	23	150	-1.7	-8.7	28	3.2
950	28	539	-.3	-9.0	28	7.5
900	28	969	-2.9	-10.9	28	10.2
850	28	1,420	-4.5	-12.4	29	12.0
800	28	1,896	-6.2	-16.3	28	12.8
750	28	2,400	-7.8	-19.1	27	13.9
700	28	2,933	-10.6	-22.7	27	15.8
650	28	3,501	-12.9	-25.4	27	18.6
600	28	4,108	-16.4	-28.[illegible]	27	20.7
550	28	4,757	-20.3	-32.2	27	23.3
500	28	5,457	-24.6	-37.0	27	26.5
450	28	6,216	-29.9	-41.5	26	28.7
400	28	7,046	-35.5	-46.2	26	31.3
350	28	7,965	-42.1	-46.6	26	33.0
300	28	8,991	-48.4		26	36.6
250	28	10,178	-53.4		26	39.1
200	28	11,607	-54.4		26	39.1
175	28	12,464	-53.7		26	35.3
150	28	13,454	-54.6		27	34.6
125	28	14,615	-57.2		27	31.6
100	28	16,018	-59.7		26	27.1
80	28	17,405	-62.0		26	22.4
70	27	18,222	-61.7		27	22.3
60	27	19,179	-60.6		27	17.9
50	27	20,319	-59.7		27	16.3
40	27	21,716	-59.0		26	15.1
30	26	23,522	-56.6		26	17.1
25	26	24,680	-55.8		26	17.8
20	26	26,111	-53.0		26	20.9
15	25	27,980	-49.2		25	24.7
10	7	30,669	-39.8			
7						

WAYCROSS, GA
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s
SFC	28	44	3.9	.6	30	.7
1000	28	163	7.4	-1.1	30	1.7
950	28	586	7.3	-3.7	29	5.2
900	28	1,030	6.3	-6.7	28	6.8
850	28	1,498	5.1	-9.1	27	8.2
800	28	1,991	3.2	-10.3	26	9.8
750	28	2,512	1.1	-13.6	26	12.2
700	28	3,064	-1.5	-16.8	26	15.5
650	28	3,651	-4.3	-19.7	26	18.6
600	28	4,277	-8.0	-22.8	26	21.9
550	28	4,948	-12.2	-27.4	26	24.7
500	28	5,670	-17.1	-32.1	26	27.6
450	28	6,453	-22.1	-37.1	26	30.5
400	28	7,308	-28.0	-42.2	26	34.3
350	28	8,257	-34.6	-46.5	26	39.9
300	28	9,316	-41.8	-47.7	25	46.4
250	28	10,531	-49.4		26	51.7
200	28	11,971	-55.4		26	51.7
175	28	12,819	-57.6		26	50.0
150	28	13,787	-60.3		26	43.4
125	28	14,916	-63.6		26	36.1
100	27	16,263	-68.1		26	26.7
80	27	17,600	-68.3		26	20.7
70	26	18,404	-66.8		26	19.8
60	25	19,341	-65.0		26	16.6
50	25	20,460	-62.0		26	10.7
40	24	21,854	-59.0		26	10.7
30	23	23,677	-55.1		26	10.4
25	23	24,846	-53.3		27	9.6
20	23	26,294	-50.2		26	8.8
15	23	28,195	-45.7		26	10.5
10	18	30,907	-42.2		25	15.2
7	5	33,310	-33.6			

WINNEMUCCA, NV
874 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	1,312	-3.9	-10.4	16	1.0
1000						
950						
900						
850	28	1,540	3.3	-6.1	20	1.6
800	28	2,031	1.8	-8.5	25	2.2
750	28	2,549	-1.1	-12.1	27	3.4
700	28	3,096	-4.2	-16.3	29	4.6
650	28	3,676	-7.7	-20.6	30	6.0
600	28	4,295	-11.7	-25.4	30	7.2
550	28	4,955	-16.4	-28.8	30	7.8
500	28	5,664	-21.7	-32.7	30	10.3
450	28	6,432	-27.3	-37.6	30	12.3
400	28	7,267	-33.6	-43.0	30	13.6
350	28	8,197	-39.9	-48.0	3[illegible]	17.2
300	28	9,230	-47.5		3[illegible]	2[illegible].5
250	28	10,413	-55.4		30	23.7
200	27	11,820	-60.0		30	23.7
175	27	12,654	-58.9		30	25.4
150	27	13,624	-58.1		30	22.3
125	27	14,770	-59.8		29	19.5
100	27	16,157	-62.2		29	15.4
80	27	17,532	-63.3		30	11.0
70	27	18,353	-63.0		31	8.3
60	27	19,302	-62.9		32	6.4
50	26	20,428	-62.5		33	5.3
40	25	21,809	-62.0		35	5.1
30	25	23,593	-61.1		36	4.0
25	24	24,724	-60.1		35	3.1
20	19	26,122	-58.9		33	4.2
15	14	27,946	-55.9		30	8.0
10						
7						

WINSLOW, AZ
854 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	1,487	-4.2	-11.4	22	1.8
1000						
950						
900						
850	23	1,544	-.4	-10.7	24	.6
800	28	2,018	4.1	-11.1	31	3.3
750	28	2,540	1.1	-13.6	33	4.3
700	28	3,091	-2.5	-17.1	32	4.9
650	28	3,675	-6.0	-21.4	32	6.2
600	28	4,298	-9.7	-25.6	32	8.3
550	28	4,963	-14.3	-29.2	32	10.0
500	28	5,679	-19.7	-32.9	32	11.8
450	28	6,452	-25.6	-37.7	31	12.7
400	27	7,305	-31.9	-43.8	32	14.5
350	27	8,238	-38.[illegible]	-48.4	31	17.4
300	27	9,276	-46.2		31	22.0
250	27	10,468	-53.7		31	25.9
200	27	11,888	-58.0		31	29.1
175	27	12,730	-57.6		30	27.7
150	27	13,703	-58.0		30	26.8
125	27	14,845	-60.7		30	23.9
100	27	16,221	-64.5		29	19.4
80	25	17,577	-66.7		30	14.0
70	24	18,386	-66.0		30	11.3
60	24	19,323	-65.2		31	8.5
50	23	20,438	-64.1		31	5.9
40	23	21,811	-62.4		30	4.5
30	22	23,597	-60.1		29	5.9
25	20	24,745	-58.2		28	8.6
20	19	26,169	-54.7		27	11.7
15	16	28,015	-51.6		27	18.3
10	11	30,688	-44.9			
7						

YAKUTAT, AK
1001 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	12	3.0	1.3	10	2.7
1000	19	52	3.2	.6	11	3.1
950	28	439	2.1	-.8	13	6.6
900	28	873	-.9	-3.2	14	8.3
850	28	1,327	-3.8	-6.1	15	9.3
800	28	1,804	-6.5	-9.5	16	9.5
750	28	2,306	-9.5	-13.7	17	[illegible]
700	28	2,836	-12.8	-17.8	17	8.2
650	27	3,395	-16.6	-22.2	17	8.7
600	27	3,992	-20.9	-26.9	18	8.9
550	27	4,629	-25.5	-31.5	19	9.7
500	27	5,314	-30.6	-35.7	20	10.7
450	27	6,054	-35.9	-38.9	20	11.5
400	27	6,862	-42.1	-41.5	21	12.7
350	27	7,756	-48.3		22	14.5
300	27	8,755	-54.0		22	16.[illegible]
250	27	9,919	-55.3		22	14.[illegible]
200	27	11,349	-52.9		22	11.7
175	27	12,212	-52.0		22	13.1
150	27	13,213	-51.5		23	11.4
125	26	14,390	-51.9		23	10.7
100	26	15,837	-52.1		23	9.9
80	25	17,279	-53.5		23	8.4
70	24	18,139	-53.2		24	8.4
60	24	19,131	-53.7		24	7.5
50	24	20,301	-54.7		25	6.5
40	23	21,728	-55.7		27	6.4
30	23	23,555	-57.1		29	6.4
25	21	24,698	-58.2		30	7.3
20	17	26,104	-58.3		32	8.2
15	12	27,983	-56.4		32	9.7
10						
7						

YAP, CAROLINE IS.
+ 1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	14	27.0	23.4	08	4.4
1000	28	94	25.8	22.4	08	6.0
950	28	545	22.5	20.0	08	10.6
900	28	1,014	19.5	15.8	08	11.[illegible]
850	28	1,506	17.0	10.[illegible]	08	10.2
800	28	2,022	15.9	3.7	08	9.5
750	28	2,569	13.7	-.8	08	8.[illegible]
700	28	3,147	10.8	-5.3	09	7.[illegible]
650	28	3,761	7.5	-8.0	09	8.6
600	28	4,416	3.9	-10.4	09	10.6
550	28	5,118	.1	-14.4	10	10.5
500	28	5,876	-4.5	-18.3	10	10.2
450	28	6,698	-9.1	-23.6	11	10.2
400	28	7,600	-14.5	-30.0	10	11.3
350	28	8,602	-21.5	-36.2	10	9.9
300	28	9,717	-29.8	-43.1	10	8.8
250	28	10,988	-40.4	-51.1	12	9.2
200	28	12,468	-53.0		13	11.8
175	28	13,316	-60.0		13	13.7
150	27	14,261	-68.1		13	16.0
125	27	15,335	-75.5		12	19.[illegible]
100	27	16,601	-82.8		11	18.1
80	27	17,852	-80.1		10	6.5
70	27	18,614	-76.2		08	.7
60	27	19,510	-73.0		36	1.1
50	27	20,595	-67.2		09	2.6
40	26	21,958	-62.7		09	12.7
30	26	23,759	-56.9		09	22.6
25	26	24,922	-53.9		09	23.9
20	25	26,372	-49.9		09	24.2
15	24	28,270	-46.4		09	24.3
10	22	30,996	-40.0		10	15.6
7	11	33,455	-35.0			

YUCCA FLAT, NV
885 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	1,198	-1.1	-9.5	33	1.2
1000						
950						
900						
850	28	1,531	7.2	-11.2	36	4.0
800	28	2,027	4.7	-13.2	01	4.1
750	28	2,550	1.5	-15.6	35	3.1
700	28	3,102	-1.8	-19.1	33	3.4
650	28	3,687	-5.3	-21.5	33	4.6
600	28	4,310	-9.7	-24.7	32	[illegible].4
550	28	4,975	-14.4	-28.5	31	[illegible].9
500	28	5,691	-19.4	-33.7	31	11.5
450	28	6,465	-25.2	-38.8	31	14.2
400	28	7,309	-31.9	-43.7	31	17.4
350	28	8,242	-38.7	-48.5	31	20.[illegible]
300	28	9,281	-46.0		31	22.4
250	28	10,474	-53.4		31	22.7
200	28	11,889	-59.3		31	24.[illegible]
175	28	12,725	-58.9		31	25.0
150	28	13,693	-58.[illegible]		30	23.[illegible]
125	28	14,833	-60.6		30	20.6
100	28	16,211	-64.1		30	16.2
80	26	17,572	-65.7		30	11.7
70	26	18,385	-65.0		31	[illegible].3
60	25	19,329	-64.2		31	6.0
50	23	20,450	-62.8		32	4.7
40	22	21,828	-61.8		33	2.5
30	15	23,625	-59.8		31	5.4
25	13	24,774	-58.1		31	4.7
20	12	26,186	-55.7		29	7.1
15	7	28,037	-52.7			
10						
7						

RAWINSONDE DATA —CORRECTIONS

Average monthly values

NOVEMBER 1976

CHARLESTON, SC
1018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	13	6.8	2.7	29	1.2
1000	30	163	9.5	1.6	33	2.5
950	30	589	9.6	-1.1	30	4.9
900	30	1,036	7.6	-1.8	28	8.1
850	30	1,507	6.9	-7.2	27	9.7
800	30	2,004	5.2	-7.5	27	11.3
750	30	2,529	3.2	-9.9	27	13.7
700	30	3,086	.8	-12.4	27	16.1
650	30	3,678	-1.8	-16.6	26	19.2
600	30	4,311	-5.2	-21.5	26	21.7
550	30	4,989	-9.4	-24.6	26	24.8
500	30	5,719	-14.4	-29.0	26	27.3
450	30	6,510	-19.5	-33.2	26	31.9
400	30	7,375	-25.3	-37.9	26	35.2
350	30	8,334	-32.3	-42.2	26	39.0
300	30	9,400	-40.4	-43.8	26	43.4
250	30	10,620	-49.0		26	50.2
200	30	12,057	-57.5		26	53.7
175	30	12,893	-61.4		26	52.5
150	29	13,841	-64.3		26	46.8
125	28	14,942	-67.4		26	40.1
100	27	16,279	-68.4		26	30.2
80	26	17,619	-67.0		26	21.8
70	28	18,428	-65.7		26	16.7
60	28	19,367	-64.4		26	12.9
50	28	20,489	-61.7		26	11.2
40	28	21,880	-59.3		27	8.9
30	26	23,695	-56.4		27	8.2
25	25	24,863	-54.3		27	8.5
20	25	26,300	-52.6		27	10.1
15	23	28,173	-50.5		27	12.1
10	17	30,786	-49.4		27	22.6

GRAND JUNCTION, CO
857 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,472	-1.1	-10.9	12	1.7
1000						
950						
900						
850	28	1,541	2.9	-9.5	12	2.2
800	30	2,026	3.3	-9.7	11	1.4
750	30	2,547	.9	-11.2	32	.8
700	30	3,098	-2.0	-13.6	31	3.7
650	30	3,683	-5.5	-17.3	32	6.4
600	30	4,307	-9.3	-21.2	32	8.6
550	30	4,974	-13.7	-25.1	32	10.4
500	30	5,692	-18.4	-30.1	32	11.[illegible]
450	30	6,470	-23.7	-35.1	32	13.5
400	30	7,320	-30.2	-39.6	32	15.4
350	30	8,260	-37.1	-45.5	32	16.8
300	30	9,304	-45.3		32	18.6
250	30	10,499	-53.5		32	19.[illegible]
200	30	11,914	-58.9		31	18.4
175	29	12,760	-60.5		31	19.[illegible]
150	29	13,719	-61.0		31	17.2
125	28	14,844	-62.7		30	16.8
100	28	16,214	-63.8		31	13.8
80	28	17,581	-63.9		32	9.2
70	28	18,401	-63.2		33	7.3
60	28	19,350	-62.7		33	5.3
50	28	20,677	-61.3		35	4.1
40	27	21,869	-59.9		36	4.3
30	23	23,677	-57.6		36	3.3
25	21	24,833	-56.2		36	2.6
20	20	26,258	-54.7		35	2.0
15	13	28,110	-53.0		30	5.6
10						

* GREAT FALLS, MT
892 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s
SFC	30	1,118	.7	-7.0	23	4.1
1000						
950						
900						
850	30	1,508	2.3	-7.4	27	6.0
800	30	1,995	-.4	-10.2	29	6.8
750	30	2,509	-3.[illegible]	-12.9	30	7.6
700	30	3,052	-5.9	-16.7	31	9.7
650	30	3,630	-9.2	-21.2	32	12.8
600	30	4,246	-12.5	-24.8	31	14.[illegible]
550	30	4,905	-16.8	-28.6	32	15.7
500	30	5,615	-21.6	-32.9	32	18.2
450	28	6,376	-27.[illegible]	-36.0	32	19.7
400	28	7,215	-33.3	-41.7	32	21.8
350	28	8,142	-40.3	-45.8	32	23.5
300	28	9,173	-47.9		32	24.5
250	28	10,356	-54.9		32	26.5
200	28	11,765	-58.8		32	24.7
175	28	12,604	-58.3		32	23.9
150	28	13,575	-58.3		32	20.3
125	28	14,722	-58.9		32	17.0
100	28	16,118	-59.7		32	14.0
80	27	17,508	-59.3		32	9.8
70	26	18,350	-59.0		33	9.2
60	25	19,314	-59.3		34	7.7
50	22	20,454	-59.0		36	7.1
40	22	21,858	-58.0		02	6.5
30	21	23,680	-56.7		03	6.8
25	19	24,838	-56.9		04	6.6
20	16	26,265	-55.6		04	7.3
15	10	28,118	-54.6		06	12.0
10	6	30,752	-53.1			

KWAJALEIN, MARSHALL IS.
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.

* NOME, AK
1001 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s
SFC	30	5	-8.7	-13.0	03	2.9
1000	20	71	-10.0	-15.0	01	2.9
950	30	415	-7.3	-11.8	07	3.6
900	30	835	-8.6	-13.5	10	2.8
850	30	1,277	-10.1	-15.4	09	2.1
800	30	1,743	-11.7	-18.6	08	2.2
750	30	2,235	-14.3	-23.0	09	2.2
700	30	2,755	-17.3	-27.5	10	2.3
650	30	3,308	-20.0	-30.7	13	2.1
600	30	3,897	-23.5	-34.5	14	2.6
550	30	4,528	-27.8	-38.2	14	2.5
500	30	5,207	-32.5	-41.0	16	2.9
450	30	5,942	-37.2	-43.7	17	4.0
400	30	6,746	-42.9	-47.1	17	5.9
350	30	7,639	-48.3		16	6.5
300	30	8,640	-52.9		17	7.6
250	30	9,812	-53.3		18	8.3
200	30	11,259	-50.3		19	7.5
175	30	12,132	-49.4		19	8.4
150	30	13,145	-48.6		20	9.1
125	30	14,344	-48.4		20	9.9
100	30	15,812	-49.1		21	9.5
80	30	17,276	-49.1		21	9.2
70	30	18,153	-49.2		21	9.8
60	30	19,164	-49.3		22	9.5
50	30	20,359	-49.4		22	9.5
40	29	21,816	-49.8		23	8.7
30	28	23,702	-49.3		24	8.8
25	27	24,912	-48.0		23	8.1
20	26	26,394	-47.9		25	7.9
15	14	28,317	-45.9		26	11.7
10						

SALT LAKE CITY, UT
877 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,288	-.1	-4.8	14	1.8
1000						
950						
900						
850	30	1,543	5.0	-5.6	16	1.2
800	30	2,037	3.4	-8.4	26	.7
750	30	2,558	.3	-10.9	30	3.5
700	30	3,108	-2.5	-14.9	32	6.8
650	30	3,693	-5.7	-17.3	32	9.8
600	30	4,316	-9.3	-22.4	32	10.4
550	30	4,983	-13.7	-26.8	32	12.1
500	30	5,701	-18.3	-32.3	32	14.3
450	30	6,479	-23.9	-36.3	32	15.8
400	30	7,378	-30.2	-40.6	32	17.6
350	30	8,268	-37.2	-44.0	32	19.1
300	30	9,312	-45.2		32	20.7
250	29	10,507	-54.0		32	22.1
200	29	11,918	-60.2		32	23.7
175	29	12,747	-61.6		31	21.4
150	29	13,705	-61.4		31	19.2
125	29	14,831	-63.1		31	16.9
100	29	16,198	-64.1		31	14.5
80	29	17,565	-64.2		32	9.7
70	28	18,383	-63.5		33	7.[illegible]
60	28	19,332	-62.5		34	4.9
50	28	20,460	-61.6		36	4.8
40	28	21,849	-60.1		02	4.2
30	26	23,650	-58.2		03	5.5
25	25	24,803	-56.9		04	5.0
20	24	26,223	-55.5		03	4.7
15	19	28,066	-54.6		04	3.3
10						

WAYCROSS, GA
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	44	6.9	5.0	35	1.0
1000	30	164	9.4	3.4	34	2.6
950	30	591	9.7	.8	32	4.3
900	30	1,040	9.3	-1.5	29	5.3
850	30	1,513	8.3	-3.3	28	7.5
800	30	2,014	7.0	-5.9	27	9.7
750	30	2,542	5.1	-7.9	27	11.8
700	30	3,103	2.4	-11.5	26	13.[illegible]
650	30	3,699	-.8	-15.7	26	17.2
600	30	4,333	-4.4	-19.0	26	18.7
550	30	5,014	-8.[illegible]	-24.0	26	20.9
500	30	5,746	-13.0	-27.7	26	25.[illegible]
450	30	6,542	-18.2	-31.1	26	28.4
400	30	7,410	-24.4	-35.6	25	31.5
350	30	8,373	-31.2	-40.7	25	34.2
300	30	9,445	-39.1	-46.[illegible]	25	40.5
250	30	10,672	-47.9		26	47.3
200	29	12,111	-57.9		26	49.0
175	28	12,938	-62.1		26	49.4
150	28	13,882	-66.0		26	45.6
125	28	14,979	-69.2		26	38.5
100	27	16,304	-70.4		26	28.3
80	25	17,634	-68.7		26	19.4
70	24	18,440	-67.1		26	14.9
60	23	19,375	-65.5		26	11.5
50	22	20,493	-62.3		26	9.6
40	19	21,876	-60.1		26	7.6
30	19	23,692	-55.9		27	5.5
25	19	24,857	-54.2		27	6.1
20	16	26,292	-52.1		27	9.3
15	14	28,150	-50.7		27	12.0
10	12	30,818	-48.0		27	18.3

WINNEMUCCA, NV
874 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s
SFC	30	1,312	-2.6	-8.4	15	1.2
1000						
950						
900						
850	30	1,541	6.[illegible]	-5.1	13	1.0
800	30	2,039	6.1	-8.1	27	1.0
750	30	2,565	3.5	-10.0	29	2.0
700	30	3,122	.[illegible]	-13.1	30	3.3
650	30	3,714	-2.6	-17.3	31	5.3
600	30	4,344	-6.3	-21.1	31	7.3
550	30	5,019	-10.7	-25.0	31	8.6
500	30	5,745	-16.0	-30.0	31	10.5
450	30	6,530	-21.[illegible]	-34.6	31	11.8
400	30	7,387	-28.1	-39.9	31	13.3
350	30	8,334	-35.6	-44.5	31	14.3
300	30	9,384	-44.3		31	16.2
250	30	10,582	-53.[illegible]		32	18.4
200	30	11,992	-61.[illegible]		31	20.6
175	30	12,820	-61.9		31	19.3
150	30	13,771	-62.8		31	17.5
125	30	14,894	-63.6		31	14.2
100	30	16,258	-64.[illegible]		31	10.8
80	30	17,620	-64.4		33	7.[illegible]
70	27	18,443	-63.6		34	6.0
60	25	19,392	-62.7		35	5.2
50	24	20,523	-61.0		02	4.0
40	24	21,914	-59.9		04	4.2
30	21	23,725	-57.3		05	5.7
25	20	24,884	-56.[illegible]		06	3.[illegible]
20	17	26,315	-54.3		04	4.5
15	12	28,162	-52.3		06	5.9
10	5	30,844	-48.7			

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

FEBRUARY 1977

Sun's zenith distance

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	*	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°

ALBUQUERQUE, NM

Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
3-----	----	----	1.13	1.32	---	----	1.24	1.13	1.01
4-----	1.01	1.09	1.16	1.33	1.47	1.30	1.10	1.03	.92
5-----	----	----	----	1.32	1.43	1.35	1.12	.96	.85
6-----	----	----	1.19	----	1.39	1.34	.99	.79	.77
7-----	----	----	----	1.26	1.40	1.30	1.18	1.04	.94
8-----	1.05	1.14	1.24	1.43	1.49	1.40	1.21	1.10	1.02
9-----	1.07	1.18	1.28	1.44	1.48	1.44	1.27	----	----
11----	----	----	1.23	1.36	1.41	1.38	(1.21)	1.04	.91
12----	.98	1.11	1.21	1.38	1.43	1.37	1.23	1.10	1.00
13----	----	----	----	1.39	1.47	1.40	1.26	1.17	1.07
14----	.85	.97	1.12	1.34	1.43	1.30	1.15	1.02	.92
15----	1.02	1.11	1.25	1.41	(1.48)	(1.39)	1.24	----	----
16----	----	----	1.21	1.37	1.49	----	----	----	----
18----	1.10	1.20	1.28	(1.41)	1.50	(1.36)	----	----	----
19----	1.00	1.11	1.21	1.38	1.45	1.40	1.19	1.11	.97
20----	----	----	----	----	1.52	1.42	1.27	1.19	1.08
21----	1.11	1.21	1.32	----	----	1.40	----	----	----
22----	.97	1.08	----	----	----	----	----	----	----
23----	1.01	1.09	1.18	1.28	1.40	1.28	1.14	1.03	.97
26----	----	----	1.14	----	1.48	1.44	----	1.17	1.06
27----	.87	1.01	1.16	1.34	1.45	1.43	1.30	----	1.08
28----	1.07	1.19	1.28	1.41	1.52	(1.37)	(1.20)	----	----
Averages	1.01	1.11	1.21	1.36	1.46	1.37	1.19	1.06	.97

MADISON, WI

Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	----	----	----	----	S 1.29	----	S 1.15	S 1.04	S .96
5-----	S 1.03	S 1.12	S 1.24	S 1.38	S 1.38	S 1.35	S 1.12	S 1.08	S .97
6-----	----	----	----	S 1.28	S 1.31	S 1.29	S 1.13	S 1.03	S .92
7-----	S .95	S 1.05	S 1.16	S 1.31	S 1.31	S 1.29	----	----	----
9-----	----	----	----	H 1.08	H 1.13	H 1.11	----	----	----
11----	----	----	----	----	----	----	S 1.16	S 1.04	S .96
15----	S .86	S 1.00	S 1.13	S 1.31	S 1.36	S 1.33	S 1.17	S 1.07	S .99
16----	S .90	S 1.01	S 1.14	S 1.30	S 1.36	S 1.33	S 1.14	----	----
20----	----	----	----	S 1.26	----	----	----	----	----
28----	----	----	----	----	S 1.35	S 1.28	S 1.11	M .99	M .89
Averages	.94	1.05	1.17	1.27	1.31	1.29	1.14	1.04	.95

OMAHA, NE

Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78

NO DATA RECEIVED

Sun's zenith distance

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	*	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°

BLUE HILL OBSERVATORY, MA

Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
6-----	----	----	----	----	----	1.00	.96	.84	.74
7-----	----	----	----	----	1.12	1.11	.97	.89	.79
8-----	----	----	----	----	1.01	.98	.96	.88	.81
16----	----	----	----	----	1.03	.98	.82	.72	.63
17----	.78	.82	.88	1.04	1.08	1.06	.87	.74	.63
18----	.77	.86	.96	1.06	1.10	1.05	.89	----	----
Averages	.78	.84	.92	1.05	1.07	1.03	.91	.81	.72

MAUNA LOA OBSERVATORY, HI

Air mass	3.36	2.63	2.01	1.34	*	1.34	2.01	2.63	3.36

NO DATA RECEIVED

TUCSON, AZ

Air mass	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
2-----	----	.94	1.08	1.25	1.39	1.31	1.19	1.06	.95
3-----	.95	1.05	1.15	----	1.45	----	----	1.00	.89
4-----	.95	1.06	1.19	1.32	1.47	----	----	----	----
5-----	.93	1.04	1.17	1.31	1.41	1.30	1.14	.99	.91
6-----	.83	.93	1.06	----	----	----	----	----	----
7-----	.86	.94	1.09	1.27	1.36	1.21	1.02	.89	.81
8-----	.89	1.00	1.14	1.31	1.41	----	1.13	.99	.88
9-----	----	----	----	1.27	1.40	----	----	----	----
10----	.77	.88	1.01	1.22	1.27	1.16	.95	.87	.78
11----	.92	1.02	1.14	1.31	1.44	1.35	1.20	1.07	.99
12----	.95	1.07	1.18	1.28	1.43	1.33	1.17	1.02	.91
13----	.95	1.06	1.18	1.33	1.44	1.35	1.24	1.12	1.02
14----	.99	1.10	1.21	1.35	1.45	1.33	1.17	1.04	.94
15----	1.01	1.13	1.25	1.39	1.48	1.33	1.24	1.07	.97
16----	1.03	1.14	1.24	1.37	1.48	1.37	1.18	1.05	.97
17----	1.04	1.14	1.26	1.40	1.50	1.34	1.17	1.09	.99
18----	1.00	1.11	1.21	1.37	1.48	1.39	1.19	1.05	.91
19----	.94	1.04	1.19	1.35	1.46	1.33	1.18	1.04	.94
20----	1.04	1.15	1.27	1.42	1.53	1.36	1.20	1.05	.94
21----	----	----	----	----	1.47	1.33	1.15	1.01	.94
22----	.94	1.05	1.16	1.30	1.32	----	----	----	----
23----	.99	1.09	1.20	1.37	1.47	1.34	1.21	1.07	----
25----	.94	1.04	1.17	1.34	1.51	1.40	1.21	1.11	.99
26----	1.04	1.14	1.26	1.40	1.52	1.39	1.25	1.13	----
27----	1.03	1.14	1.26	1.40	1.51	1.38	1.24	1.11	1.01
28----	1.07	1.16	1.28	1.41	1.54	1.40	1.21	1.08	.96
Averages	.96	1.06	1.18	1.34	1.45	1.34	1.17	1.04	.94

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska. FEBRUARY 1971

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	11	-1	-29	-30	-29	-18	-29	74	-29	-53	43	-48	-21	-35	-53	-66	-36	-23	-6	-16	-16	-12	-68	-18	-11	-59	-17	-24				-2

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa.

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code (s ℤ ℤ ℤ) defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O3

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
†	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
—	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

C	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeterminable
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

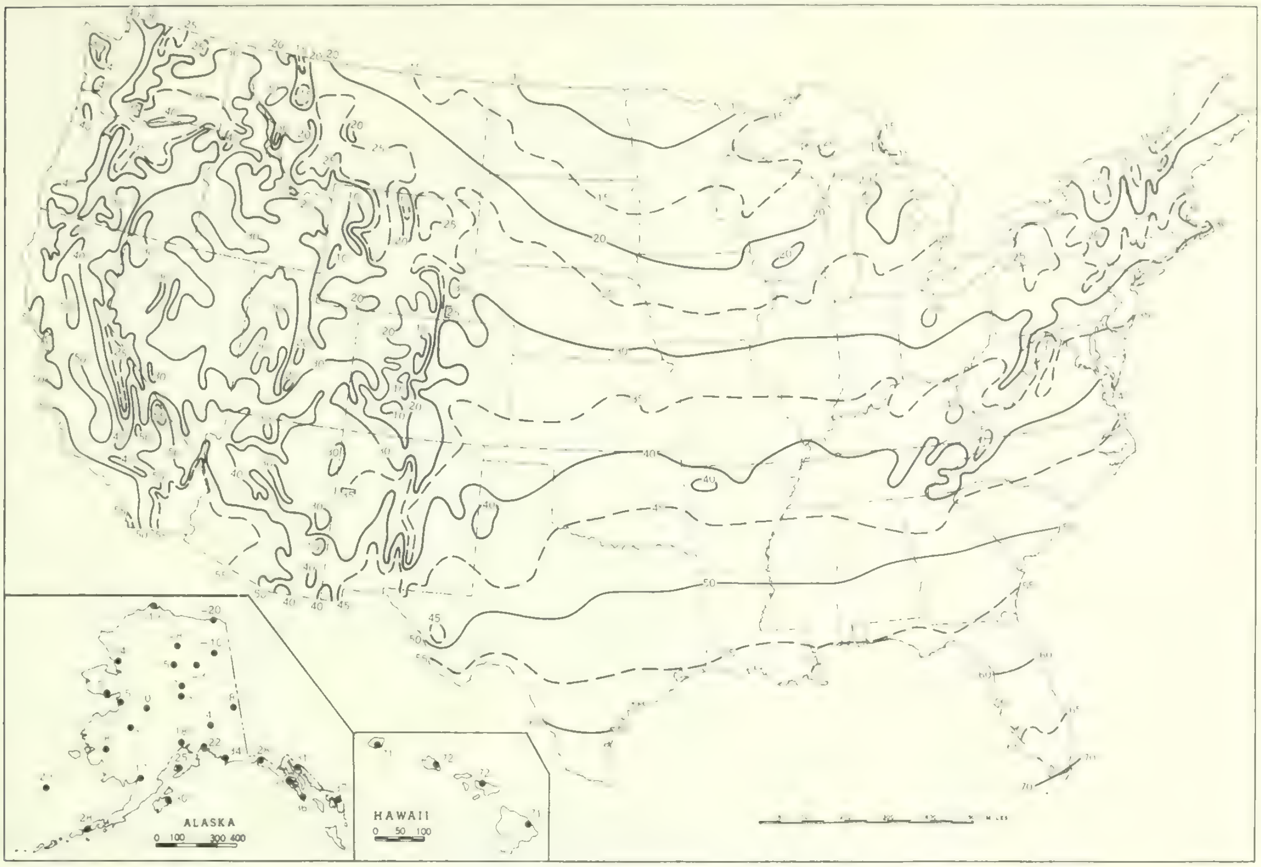
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

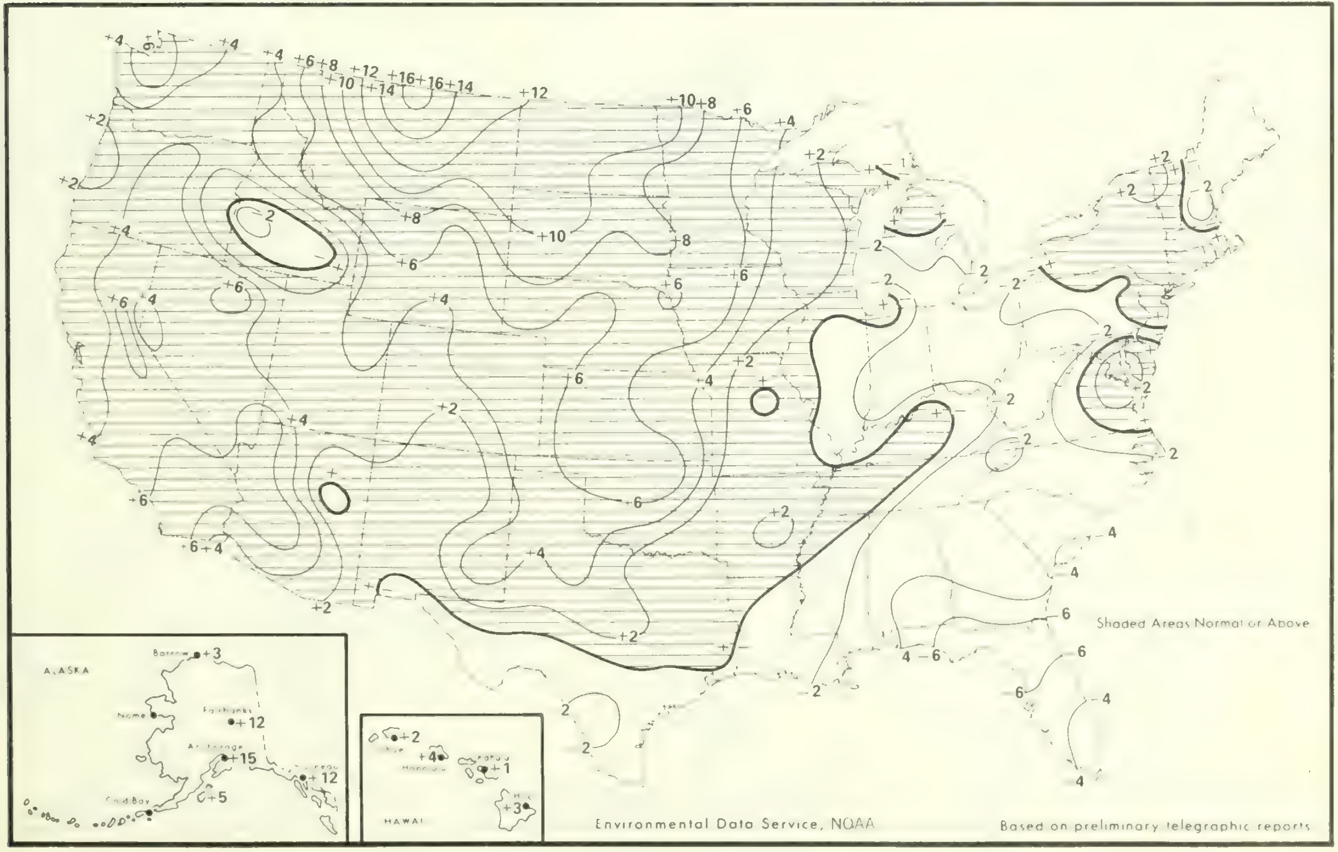
SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\Omega \Omega \Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), February.



B. Temperature Departure from 30 - Year Mean (F 1941-70), February 1977

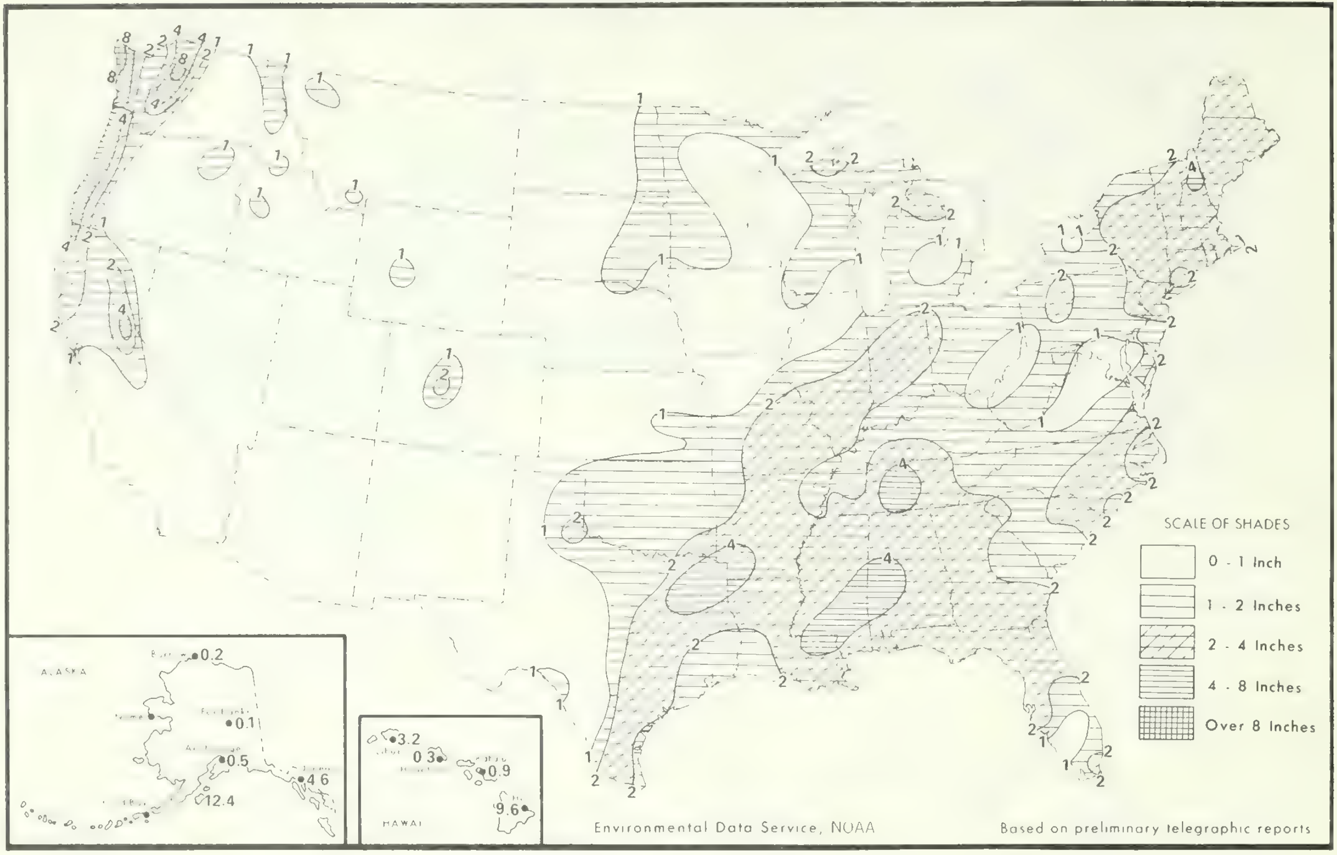


Shaded Areas Normal or Above

Environmental Data Service, NOAA

Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), February 1977



B. Percentage of Normal Precipitation, February 1977

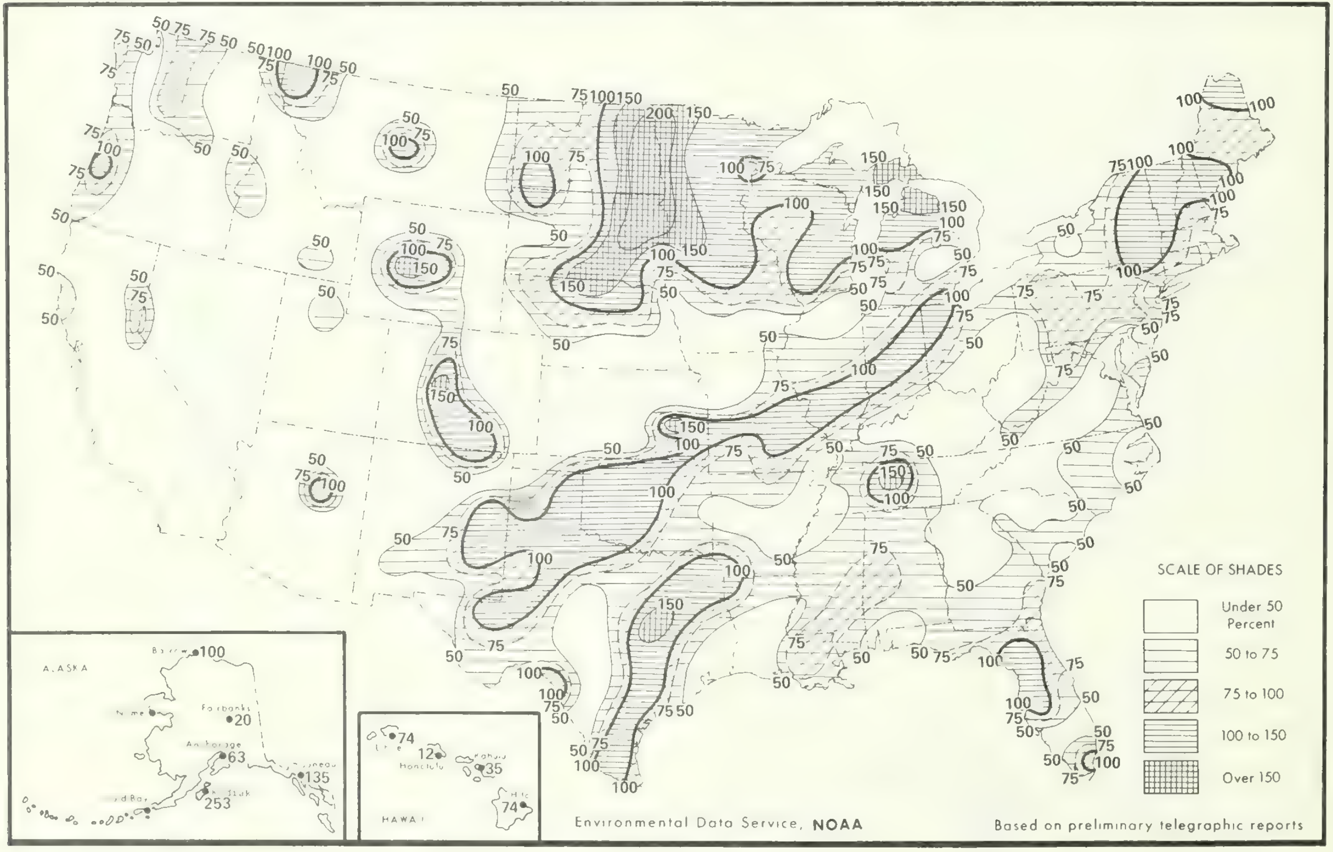
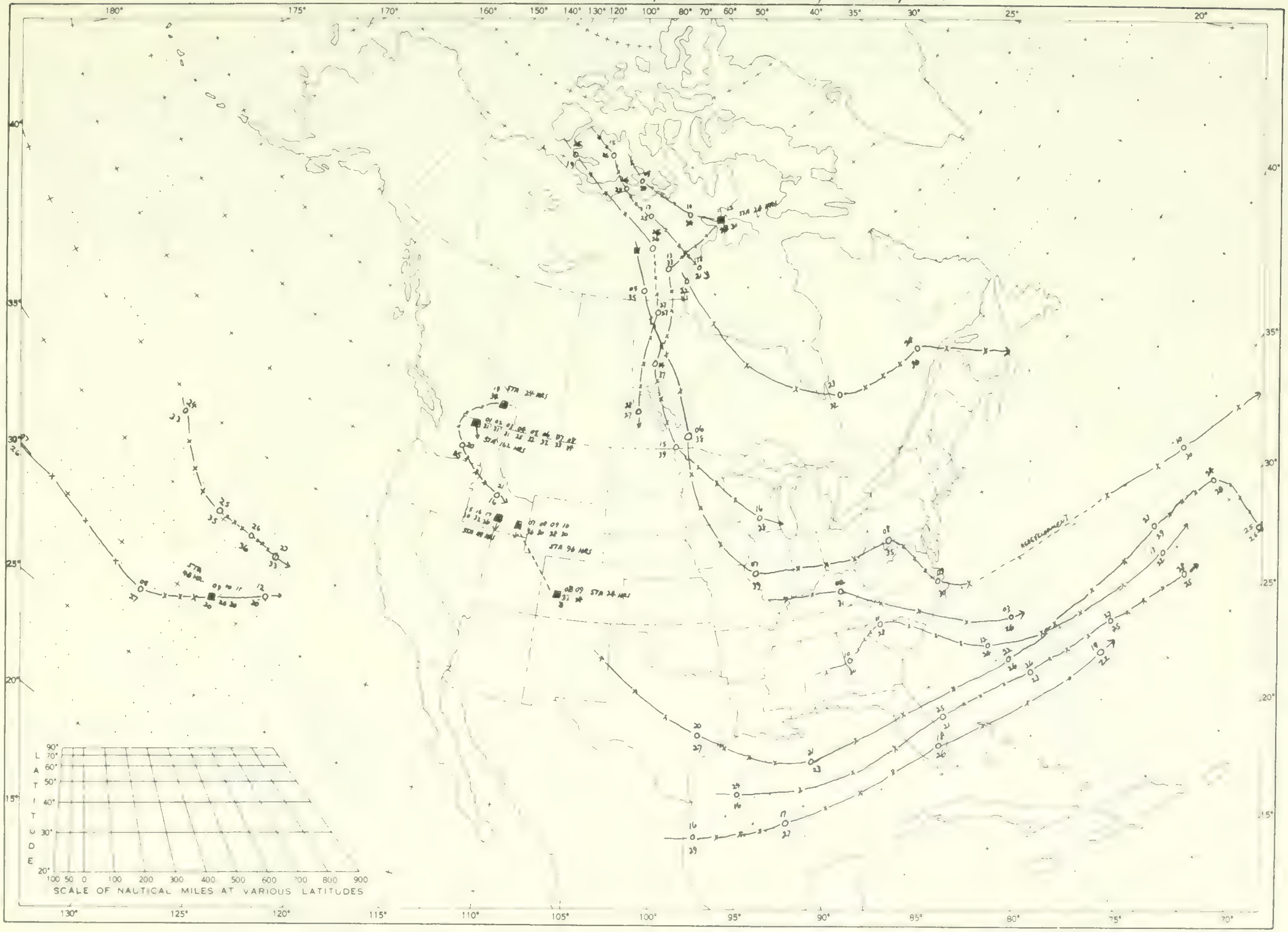
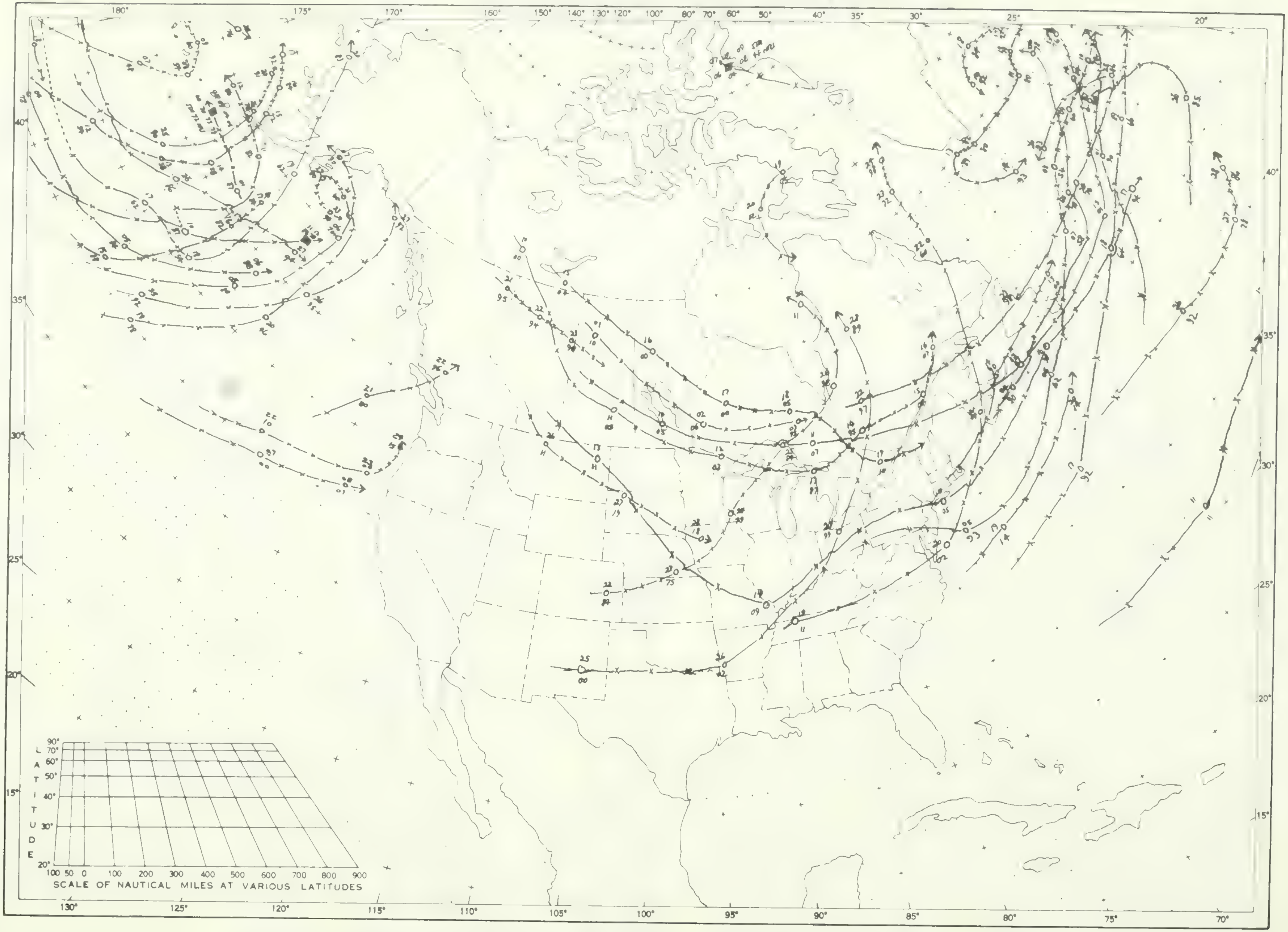


Chart III. Tracks of Centers of Anticyclones at Sea Level, February 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, February 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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MARCH 1977 VOLUME 28 NUMBER 3

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

SEP 27 1977

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MARCH 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: A change in weather patterns early in March brought welcome precipitation to much of the dry central and northern Plains. From Montana and Wyoming eastward, through most of the previously dry area, greater than normal precipitation fell. However, dry conditions persisted in the southwestern half of Kansas, western Oklahoma, and the Texas Panhandle. Northern North Dakota and northeastern Montana also remained dry. Most of the western United States had less than normal precipitation except in minor areas.

March temperatures averaged above normal east of the Rocky Mountains, and colder than normal in the West. The greatest departures were in the central Plains where the average temperatures for the month were as much as 11° warmer than normal.

A major storm system moved across the northern half of the Nation during the first week of March. Substantial moisture occurred in many of the dry areas of the Pacific Northwest and the central Plains. More than two inches of rain fell along the Washington and Oregon coasts; lesser amounts reached into northern California. Some heavy snow fell in the northern Rockies and dry areas from southern South Dakota to the Great Lakes region.

Later in the week, moisture from the Gulf of Mexico moved northward and caused heavy rain and thunderstorms in the South; a few tornadoes touched down. The rain moved northeastward, and some heavy snow fell in New England.

The weather patterns of the second week were similar to the first. A series of storm systems moved across the northern States and moisture from the Gulf spread northeastward. Rain in the West spread into central California and snow covered the central and northern Rockies. Rain fell in most of the central and northern Plains, with two to three inches in parts of South Dakota and Nebraska. The Southwest remained dry.

The warm moist air from the Gulf of Mexico spread rain and showers all the way to New England. Severe weather, including some tornadoes, reached from central Mississippi to southeastern Kentucky. In nearly all of the United States temperatures averaged above normal.

The pattern changed somewhat after midmonth, and a storm system moved southward along the California Coast depositing heavy precipitation. The rain and snow were lighter in the mountains, but most welcome. The Southwest, from southern Kansas and Texas through Arizona, had little or no precipitation. The northern Rockies continued to have snow showers, and rain fell from the central Plains through the Lakes area and New England.

The South was a little quieter, but some thunderstorm activity did occur. The mid-Atlantic States received an inch or more of rain. East of the Rockies temperatures averaged above normal, however, winter like weather returned to the West. Moderate rain continued on the West Coast in the last week. The heaviest amounts fell near Los Angeles where thunderstorms deposited over two inches in some places. The rain and showers extended eastward to the Atlantic Coast. Snow fell throughout the Rocky Mountains, but the precipitation stopped in the central Plains where little or no moisture was recorded. Thunderstorms, heavy rain, and a few tornadoes occurred along a line from central Texas to southern Illinois. Heavy rain caused local flooding from central Alabama into North Carolina. Moderate to heavy rain extended into eastern New England.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MARCH 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In		In.
Alabama	3 Stations	87	22+	Valley Head	20	2	Anniston FAA AP	18.09	Headland	5.86
Alaska	Annette WSO AP	64	31	2 Stations	-55	7	Mac Leod Harbor	15.07	2 Stations	.03
Arizona	3 Stations	91	23+	Hawley Lake	-13	30	Sunrise Mountain	2.70	4 Stations	.00
Arkansas	3 Stations	87	15	2 Stations	19	7+	De Queen	12.68	Gravette	3.94
California	Indio U.S. Date Garden	90	23	White Mountain 1	-13	18	Gasquet Ranger Station	10.00	2 Stations	.00
Colorado	2 Stations	82	26+	Taylor Park	-26	5	Berthoud Pass	4.52	7 Stations	T
Connecticut	Hartford WSO AP	87	30	Falls Village	10	20	Stevenson Dam	9.57	New Haven Airport	5.81
Delaware	2 Stations	83	30+	3 Stations	23	26+	Wilmgton Porter Reservoir	6.64	Bridgeville 1 NW	1.61
Florida	2 Stations	95	22+	Fountain 3 SSE	23	1	Milton Exp. Station	9.13	Everglades	.03
Georgia	Morgan 1 W	91	19	Blairsville Exp. Station	15	1	Dahlonega	15.43	Brunswick FAA AP	1.51
Hawaii	Puukohola Heiau 98.1	91	17+	Mauna Loa Slope Obs.	27	19	Hilo Country Club 86.6	48.11	Puukohola Heiau 98.1	.22
Idaho	[illegible]	75	22	Stanley	-22	11	Dixie	5.08	Burley FAA AP	.04
Illinois	2 Stations	81	30+	Danville	9	2	Marion 4 NNE	11.31	Rockford 6 ENE	3.15
Indiana	Scottsburg	83	31	Lafayette 5 S	9	2	Princeton 1 W	8.54	Hobart	2.46
Iowa	Logan	80	8	Primghar	- 2	6	Cedar Rapids FAA AP	6.09	Kanawha	2.20
Kansas	Aetna 2 S	85	14	2 Stations	9	6+	Atwood	5.50	Kalvesta	.03
Kentucky	Bernheim Forest	86	30	Covington WSO AP	7	2	Fords Ferry Dam 50	6.75	Barbourville	1.92
Louisiana	2 Stations	89	27	2 Stations	26	8+	Boyce 3 WNW	12.81	Boothville WSO	1.56
Maine	Sanford 2 NNW	80	30	Clayton Lake 2	- 4	4	Lewiston	8.25	Presque Isle	1.48
Maryland	Baltimore WSO CI	87	30	McHenry 2 NW	8	25	Emmitsburg 2 SE	6.55	Vienna	1.34
Massachusetts	Chester 2	88	30	Chester 2	3	20	Borden Brook Reservoir	9.63	South Wellfleet	4.04
Michigan	2 Stations	77	30+	Kenton U.S. Forest	-14	1	Port Inland	7.44	Gladwin	.83
Minnesota	Browns Valley	71	26+	Cass Lake	-18	2	Madison Sewage Plant	7.25	Thief River Falls 5 N	D .29
Mississippi	Wiggins 3 SSE	88	18	Winona 5 E	22	1	Merrill	15.35	Pleasant Hill	3.99
Missouri	Wappapello Dam	86	16	2 Stations	10	7+	Charleston	18.38	Climax Springs	1.87
Montana	2 Stations	76	23	Hebgen Dam	-20	4	Red Lodge	4.19	Glasgow 15 NW	.00
Nebraska	4 Stations	82	9	Valentine WSO AP	- 4	21	Ravenna	6.46	Lyman	.72
Nevada	Sunrise Manor Las Vegas	80	22	Mountain City RS	- 7	5	Owyhee	1.68	2 Stations	.00
New Hampshire	3 Stations	85	30	Mount Washington	- 8	2	Mount Washington	15.98	Colebrook 2 E	1.94
New Jersey	5 Stations	85	30	Newton St. Pauls Abbey	14	26	Jersey City	10.33	Belleplain St. Forest	2.04
New Mexico	Jal	88	17	Eagle Nest	-20	6	Lake Maloya	2.03	4 Stations	.00
New York	Watkins Glen	88	31	Old Forge	- 7	20	Slide Mountain	10.68	Wilson 2 NE	1.76
North Carolina	2 Stations	86	17	Grand Father Mountain	12	23+	Lake Toxaway 2 SW	21.56	Eden	2.23
North Dakota	2 Stations	74	24	La Moure 2 W	-12	1	Fullerton 1 ESE	3.47	3 Stations	.00
Ohio	Ironton	84	31	2 Station	8	2	Dorset	5.73	New Carlisle	2.48
Oklahoma	Mangum Research Station	89	17	Goodwell Research Station	12	5	Hee Mountain Tower	11.36	Beaver	.13
Oregon	Pelton Dam	77	22	Seneca	- 4	14	Tillamook 13 ENE	18.99	Wagontire	T
Pennsylvania	2 Stations	87	31	Austinburg 2 W	3	20	Tamaqua	9.33	Raymond	1.89
Puerto Rico	Magueyes Island	94	19	Adjuntas Substation	48	25	Rio Grande El Verde	8.24	2 Stations	.00
Rhode Island	North Foster 1 E	82	30	Kingston	15	20	North Foster 1 E	7.53	Block Island WSO AP	4.00
South Carolina	Ridgeland 5 NE	89	29	Ninety Nine Islands	17	1	Salem	13.57	Beaufort 7 SW	3.64
South Dakota	Kirley 6 N	80	25	Webster Water Dept.	-13	1	Mission 14 SSE	7.82	Ralph	.64
Tennessee	Linden 2	87	31	Tazewell	13	2	Lawrenceburg Filt Plant	10.81	Livingston	3.44
Texas	3 Stations	96	18	Perryton 5 NNE	10	5	Negley 4 SSW	11.15	6 Stations	.00
Utah	Saint George	80	22	Scofield	- 8	5	City Creek Water Plant	6.19	2 Stations	.00
Vermont	Rutland	83	30	Mount Mansfield	0	25	Wardsboro 3 SE	8.51	Morrisville 2	1.75
Virginia	5 Stations	85	31+	Mt. Lake Biological Sta.	6	1	Floyd 2 NE	6.16	Corbin	1.73
Virgin Islands	4 Stations	89	27+	2 Stations	60	29+	Dorothea Agri. Exp. Sta.	3.10	Frederiksted	.12
Washington	4 Stations	73	23+	Chesaw 4 NNW	2	13	Rainier Paradise RS	21.14	Wapato	.21
West Virginia	2 Stations	87	30+	Beckley V A Hospital	4	2	Thomas	6.98	Union	1.12
Wisconsin	Prairie Du Chien	71	26	Minong 5 WSW	-11	1	Superior	8.38	Lynxville	2.21
Wyoming	Torrington Exp. Farm	74	24	Lake Yellowstone	-30	4	Burgess Junction	4.71	2 Stations	.06

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature								No of days				Precipitation			No of days		Snow ice pellets		Wind					No of days sunrise to sunset				
	Elevation ground	Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers) Speed	Fastest mile Direction	Fastest mile Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
ALABAMA																																
BIRMINGHAM	189	994.6	1017.2	20.4	7.7	14.1	2.2	27.2	30+	-1.7	1	0	3	6.1	63	221	64	54	12	7	0	0	0.7	16	15.2	SE	28	8	5	18	6.7	47
HUNTSVILLE	190	993.6	1016.9	19.3	6.6	12.9	2.5	27.8	30	-1.7	1	0	5	5.6	64	241	94	94	11	5	0	0	0.9	17	13.9	18	28	10	7	14	6.1	
MOBILE	64	1009.1	1016.9	22.0	11.9	17.0	1.8	28.3	18	1.7	8+	0	0	10.0	68	154	-26	38	14	6	0	0	1.5	14	13.0	16	12	5	6	20	7.5	
MONTGOMERY	59	1010.2	1017.6	20.3	9.3	14.8	1.2	28.3	14	0.0	8+	0	2	8.9	71	182	29	42	13	5	0	0	0.7	17	19.2	SW	4	6	5	20	7.0	49
ALASKA												B																				
ANCHORAGE	35	1001.0	1006.1	-0.2	-7.9	-4.1	0.6	5.6	16	-19.4	7	0	30	-10.6	61	21	7	6	12	0	241	127	1.6	36	9.4	20	4	5	5	21	7.6	49
ANNETTE	34	1006.1	1010.1	7.3	1.1	4.2	0.7	12.2	31	-2.2	15	0	10	0.0	78	189	-43	31	23	0	28	T	1.5	16	21.5	14	10	0	8	23	8.8	
BARROW	9	1018.0	1018.6	-27.2	-33.1	-30.1	-3.9	-22.2	6+	-39.4	27	0	31	-33.3	71	5	0	2	9	0	53	203	3.7	6	11.6	7	16	17	4	10	4.2	
BARTER ISLAND	12	1015.2	1017.4	-28.6	-35.9	-32.3	-6.3	-21.1	16	-41.1	25	0	31	-35.6	68	1	-5	1	5	0	13	203	0.7	24	13.9	9	19	18	7	6	3.7	
BETHEL	38	1001.7	1007.7	-10.3	-20.1	-15.2	-3.7	2.2	15	-37.8	5	0	31	-18.9	73	24	4	6	16	0	417	686	1.2	35	21.9	19	15	6	4	21	7.4	
BETTLES	196	986.5	1012.3	-14.7	-27.0	-20.9	-3.9	-2.2	29	-37.8	12+	0	31	-24.4	74	17	-4	7	11	0	411	787	1.4	35								
BIG DELTA	386			-6.8	-18.8	-12.8	-1.8	3.9	29	-30.6	12	0	31			7	-2	T	6		155	127										
COLD BAY	29	1002.7	1006.2	2.2	-3.7	-0.7	0.9	8.3	28	-11.1	4	0	25	-3.3	83	119	70	45	28	0	686	381	1.5	23	30.0	17	14	0	4	27	9.1	
FAIRBANKS	133	991.5	1009.4	-8.8	-21.7	-15.2	-2.7	3.3	29	-33.3	6	0	31	-20.6	62	7	-6	2	8	0	140	533	0.4	29	8.9	25	30+	8	7	16	6.5	
GULKANA	479			-3.3	-16.5	-9.9	-0.2	3.9	30	-26.7	18	0	31			11	3	4	6		178	152										
HOMER	19			1.1	-6.7	-2.8		5.0	29+	-13.3	8+	0	31			54	23	12	16	0	478	127			13.4	26	16+	5	6	20	7.2	
JUNEAU	4	1006.8	1007.4	4.6	-0.2	2.2	2.3	7.8	31+	-4.4	24	0	11	-0.6	85	84	-7	12	25	0	323	51	2.9	11	13.4	1	11	1	2	28	9.2	38
KING SALMON	15	1004.4	1006.3	-2.4	-12.3	-7.3	-0.9	4.4	15+	-32.2	5	0	30	-10.0	77	51	21	15	21	0	508	356	0.5	7	16.5	15	15	2	7	22	8.1	
KODIAK	4	1001.4	1005.7	3.6	-4.2	-0.3	-0.3	7.8	29	-14.4	5	0	26	-5.6	69	35	-63	12	15	0	221	102	3.2	29	20.6	31	11	5	12	14	6.6	
KOTZEBUE	3	1011.5	1011.8	-19.6	-30.8	-25.2	-7.1	-1.1	16	-39.4	24	0	31	-28.3		8	-1	3	10	0	104	483	1.0	9	20.1	9	12	17	4	10	3.8	
MC GRATH	105	995.6	1009.1	-10.1	-24.9	-17.5	-4.7	2.8	15	-45.0	6	0	31	-21.1	67	30	9	7	16	0	455	737	0.5	29	10.3	19	15	4	8	19	7.1	
NOME	4	1008.1	1009.0	-13.8	-27.3	-20.6	-6.9	1.1	15	-41.1	5	0	31	-26.1	63	20	0	10	7	0	239	406	1.7	6	17.4	7	15	18	3	10	4.2	63
ST. PAUL ISLAND	7			-2.2	-7.7	-4.9	-0.3	2.8	12+	-15.0	26+	0	30			36	4	7	23	0	406	381			24.6	5	23	2	6	23	8.3	
TALKEETNA	105			-1.7	-16.0	-8.8	-2.2	2.8	16	-30.6	7	0	31			37	-2	9	13	0	620	813			7.6	21	30+					
UNALAKLEET	5			-11.7	-21.6	-16.6		2.8	16	-36.7	4	0	31			15		4	12		178	229			20.1	11	15	6	8	17	7.0	
VALDEZ	7			2.1	-4.2	-1.1	1.8	8.3	30	-7.8	20	0	31			88	-22		16		1344				9.8	10	18					
YAKUTAT	9	1003.7	1004.9	4.2	-2.6	0.8	1.8	6.7	30	-8.9	6	0	27	-1.7	83	212	-31	36	22	0	1661	610	1.5	7	13.0	5	10	1	6	24	8.6	
ARIZONA																																
FLAGSTAFF	2135	782.3	1012.2	9.3	-7.7	0.8	-0.4	17.2	22	-13.9	3	0	31	-11.7	44	23	-23	11	7	0	224	76	1.7	24	15.2	NW	10	13	15	3	4.1	85
PHOENIX	339	973.9	1012.8	23.6	8.4	16.0	0.6	31.7	22	3.9	3	0	0	-5.6	26	7	-12	4	4	2	0	0	0.9	24	22.8Y	W	1	21	5	5	2.6	93
TUCSON	788	923.8	1011.9	20.6	5.8	13.2	-1.1	28.9	22	1.1	19+	0	0	-5.6	30	19	3	18	3	0	0	0	1.5	23	17.0	W	10	22	4	5	2.7	92
WINSLOW	1492	848.0	1013.5	14.3	-3.3	5.5	-1.6	20.6	9	-10.0	15	0	26	-8.3	42	5	-6	4	2	1	46	25	2.9	23	18.3	22	9	14	13	4	3.9	
YUMA	59	1006.4	1013.7	23.0	8.1	15.6	-2.2	30.0	22	3.3	3	0	0	-3.9	30	1	-4	1	1	0	0	0	1.9	29	15.2	NW	10	25	4	2	1.9	95
ARKANSAS																																
FORT SMITH	136	997.3	1013.9	19.3	4.6	11.9	1.8	27.8	14	-3.9	22	0	10	2.2	56	160	67	90	7	5	0	0	0.6	21	15.6	SW	28	12	5	14	5.4	71
LITTLE ROCK	78	1005.4	1015.1	19.7	7.4	13.6	3.4	29.4	15	0.6	7	0	0	6.1	64	171	46	65	7	4	0	0	1.2	21	15.6	SW	28	13	5	13	5.5	75
CALIFORNIA																																
BAKERSFIELD	145	1000.0	1017.9	19.3	5.3	12.3	-1.3	29.4	22	1.7	13	0	0	1.1	51	33	11	24	3	0	0	0	1.2	35	13.4	34	12	19	8	4	3.4	
BISHOP	1252	872.0		15.2	-3.2	6.0	-1.9	24.4	27	-8.9	15	0	27			1	-10	1	1		10	T			26.4Y		23	17	10	4	3.6	
BLUE CANYON	1609	836.4	1016.5	6.7	-2.8	1.9	-1.4	16.1	21	-10.0	14	0	25	-7.8	55	90	-127	23	11		612	279			11.2	26	9					
EUREKA U	13			11.2	4.5	7.9	-1.2	15.6	6	0.0	10	0	1			110	-13	32	15		T	T			14.3	N	27+	6	11	14	6.5	52
FRESNO	100	1006.1	1018.0	18.4	4.2	11.3	-0.8	27.2	22	-1.1	2	0	2	1.7	57	26	-15	13	4	0	0	0	1.2	32	13.0	31	12	12	14	5	4.1	89
LONG BEACH	8	1015.2	1016.7	19.2	6.9	13.1	-0.9	26.7	21	2.2	3	0	0	3.9	58	34	-4	18	3	1	0	0	1.4	26	13.0	32	1	22	3	6	2.8	
LOS ANGELES	30	1012.9	1016.5	18.3	8.3	13.3	-0.3	23.9	7	4.4	15	0	0	5.0	62	31	-12	18	3	1	0	0	1.5	27	17.4Y	N	1	21	4	6	2.8	
LOS ANGELES U	82			19.2	8.5	13.8	-1.3	27.2	21	5.0	26+	0	0			48	-8	27	3		0	0			13.9	NW	1	21	5	5	3.2	86
MT SHASTA R	1077	892.0	1018.2	8.7	-2.2	3.3	-1.4	18.3	21	-8.9	14	0	29	-5.6	60	40	-62	11	12		284	152	1.4	34								
OAKLAND	2	1019.3	1019.4	16.1	7.8	11.9	-0.1	21.7	4	5.6	18	0	0	5.0	66	46	-12	34	7	0	0	0	2.2	28	9.8	14	15+	13	11	7	4.3	
RED BLUFF	104	1005.8	1018.5	18.0	5.6	11.8	0.1	25.6	26+	1.1	14	0	0	0.6	52	35	-29	25	6	2	0	0	1.5	34	14.8	NW	9	11	7	13	5.7	82
SACRAMENTO	5	1017.3	1018.2	17.1	4.1	10.6	-1.1	23.3	22	-0.6	14	0	1	1.7	60	32	-23	24	7	0	0	0	1.6	26	14.3	N	27+	14	9	8	4.2	84
SANDBERG R	1377	860.8	1015.3	8.8	-0.4	4.2	-2.2	18.9	8	-5.0	13	0	22	-6.1	57	34	1	23	9		330	127	3.3	36	21.5	35	2					
SAN DIEGO	4	1015.9	1017.0	18.2	10.1	14.2	-0.3	24.4	6	6.7	15	0	0	6.1	61	15	-24	7	6	2	0	0	1.4	27	14.8	NW	1	18	8	5	3.4	84
SAN FRANCISCO	2	1018.6	1019.2	14.8	6.2	10.5	-1.2	21.1	21	2.8	14	0	0	3.3	65	51	-13	34	8	0	0	0	3.8	29	15.6	29	27	15	11	5	4.0	
SAN FRANCISCO U	16			14.9	8.6	11.8	-0.6	22.2	21	6.7	16+	0	0			51	-19	36	7													
SANTA MARIA	72			17.1	1.9	9.6	-2.0	22.8	21	-2.2	14+	0	10			39	-11	30	4		0	0						22	4	5	3.0	
STOCKTON	7	1017.6	1018.4	19.2	4.8	12.0	0.5	25.6	22	0.0	14	0	1	3.9	65	24	-26	14	8	0	0	0	2.3	31	13.0	34	3	13	7	11	4.7	
COLORADO																																
ALAMOSA	2297	765.0		8.6	-11.6	-1.5	-0.9	15.6	27+	-18.3	30+	0	31			4	-5	3	2		64	51	2.3	23				14	5	12	4.8	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days sunrise to sunset				
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation ground	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	803.6	1010.0	10.2	-4.6	2.8	1.0	18.9	24+	-10.6	5	0	28	-10.6	44	30	10	29	3	0	351	305	1.5	36	25.0	35	11	12	10	9	4.7	
DENVER	1610	829.0	1008.0	12.1	-3.4	4.4	1.6	21.7	23+	-8.3	1	0	26	-9.4	44	31	1	28	6	0	244	203	0.8	27	21.0	N	11	11	11	9	5.1	76
GRAND JUNCTION	1476	847.6	1011.8	12.9	-3.1	4.9	-0.2	21.1	24+	-10.0	29	0	25	-10.0	38	13	-6	7	6	0	58	51	0.4	31	16.1	W	27	8	13	10	5.5	78
PUEBLO	1428	848.6	1008.7	15.7	-4.6	5.6	1.1	24.4	13	-10.0	20	0	28	-8.3	42	3	-15	2	3	0	28	25	1.8	31	29.5	N	11	16	6	9	4.5	90
CONNECTICUT																																
BRIDGEPORT	2	1013.9	1014.4	9.8	1.1	5.5	2.2	19.4	11	-4.4	25+	0	13	-0.6	70	197	108	117	10	0	119	76	2.8	29	25.9	8	22	12	7	12	5.2	
HARTFORD	52	1007.1	1013.6	11.8	0.3	6.1	4.1	30.6	30	-10.6	20	0	18	-1.1	64	167	70	45	12	1	279	178	1.8	29	17.4	NW	24	10	9	12	5.9	58
DELAWARE																																
WILMINGTON	23	1012.9	1015.9	14.2	2.7	8.4	3.1	27.8	29	-5.0	3	0	10	0.6	62	116	21	56	7	1	0	0	2.1	28	13.9	30	31	13	8	10	4.9	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1004.4	1016.2	16.2	2.5	9.4	3.9	28.3	30	-7.8	3	0	11	0.0	56	91	3	42	7	1	0	0	2.0	26	17.9	29	22	12	7	12	5.2	
WASHINGTON NATIONAL	3	1014.2	1016.6	16.9	6.1	11.5	4.2	27.8	30	-1.7	25	0	4	2.2	57	55	-29	23	7	0	0	0	2.1	27	18.8	NW	22	12	7	12	5.4	78
FLORIDA																																
APALACHICOLA J	6	1017.6	1018.0	21.7	12.6	17.2	1.2	26.7	18+	-0.6	1	0	1	13.3	82	93	-27	25	8	3	0	0	1.6	15	11.6	N	22	6	5	20	7.1	60
DAYTONA BEACH	9	1017.3	1018.9	26.3	14.7	20.5	2.8	32.8	21	2.8	2	2	0	13.9	71	36	-49	14	4	1	0	0	1.0	15	11.2	26	18	5	13	13	6.4	
FORT MYERS	5	1017.6	1018.0	28.0	15.2	21.6	1.3	32.2	6	6.7	2	1	0			2	-75	1	3	0	0	0	1.3	12	10.3	2	1	10	16	5	4.9	
JACKSONVILLE	8	1017.6	1018.6	25.3	11.3	18.3	2.1	31.1	16	-0.6	1	0	1	11.7	70	26	-64	20	6	0	0	0	0.9	19	13.0	W	18	5	8	18	6.7	71
KEY WEST	1	1016.6	1017.3	26.8	22.5	24.7	1.0	30.6	22	16.7	1	0	0	18.9	71	2	-38	2	1	0	0	0	3.4	10	10.3	13	28	9	13	9	5.4	90
LAKELAND J	65			27.6	15.7	21.7	2.6	32.8	21+	6.1	1	3	0			21	-81	12	5		0	0						8	13	10	5.8	56
MIAMI	2	1018.3	1018.5	26.9	20.7	23.8	2.0	33.3	22	12.2	2+	1	0	18.3	74	23	-29	23	1	0	0	0	2.9	10	11.2	9	27	3	17	11	6.5	
ORLANDO/MC COY AFB	29	1014.9	1018.6	27.1	14.7	20.9	2.1	32.2	21	2.8	2	1	0	14.4	71	46	-42	38	3	0	0	0	1.0	15	9.8	19	29+	4	12	15	6.5	
PENSACOLA	34	1013.2	1017.5	21.4	12.4	16.9	1.4	28.9	16	2.2	1	0	0	11.1	73	107	-54	50	9	2	0	0	1.1	14	13.0	33	12	6	4	21	7.1	
TALLAHASSEE	17	1015.9	1018.2	24.6	10.8	17.7	2.0	30.6	19+	-2.8	1	0	2	12.2	73	154	4	52	8	3	0	0	1.2	16	13.4	17	28	6	6	19	7.0	
TAMPA	6	1018.3	1018.4	26.7	16.6	21.6	2.7	30.6	12	5.0	2	0	0	15.0	70	19	-80	8	4	0	0	0	1.3	14	8.0	3	23+	5	12	14	6.6	59
WEST PALM BEACH	5	1017.6	1018.4	27.6	18.8	23.2	2.2	34.4	22	10.0	2	1	0	17.2	73	13	-71	7	3	0	0	0	2.5	11	10.3	12	28	6	15	10	6.1	
GEORGIA																																
ATHENS	244	988.5	1017.5	19.8	7.8	13.8	2.8	27.8	15	-2.8	1	0	4	5.6	62	152	7	46	13	4	0	0	0.6	24	10.3	19	28+	12	3	16	6.2	
ATLANTA	308	980.4	1017.2	18.9	6.9	12.9	2.3	26.7	15	-4.4	1	0	4	3.9	60	160	11	38	16	3	0	0	0.6	23	12.5	32	22	11	2	18	6.5	54
AUGUSTA	41	1012.5	1017.8	22.1	8.1	15.1	2.6	28.9	16+	-2.8	1	0	5	6.7	62	208	89	64	12	5	0	0	0.8	21	11.6	28	4	9	6	16	6.4	
COLUMBUS	117	1003.4		22.2	9.1	15.7	2.7	27.8	15	-1.7	1	0	1	8.9	68	201	48	44	13	6	0	0	0.4	13	10.7	16	4	7	5	19	6.7	
MACON	108	1005.1	1018.0	22.0	8.8	15.4	1.8	30.0	15	-1.7	1	0	3	8.9	70	200	70	74	12	4	0	0	0.6	17	13.9	SW	20+	8	5	18	6.5	65
ROME	194			19.9	6.1	13.0	2.7	26.7	30+	-4.4	2+	0	6			228	71	56	15		0	0										
SAVANNAH	14	1016.6	1018.4	22.6	10.9	16.7	2.3	30.6	16	1.1	1	0	0	9.4	67	69	-43	27	12	4	0	0	0.6	21	14.8	W	22+	6	7	18	6.7	60
HAWAII																																
HILO	8	1017.3	1018.3	27.1	18.8	22.9	1.2	30.0	28+	15.6	26	0	0	17.8	78	393	46	96	29	1	0	0	0.5	9	10.3	SE	30+	2	7	22	7.9	32
HONOLULU	2	1017.3	1017.7	28.4	20.7	24.6	1.8	30.0	3	17.2	27	0	0	16.7	65	60	-21	23	12	0	0	0	5.9	7	16.5	NE	7	7	20	4	5.1	66
KAHULUI	15	1014.9	1017.2	27.6	19.7	23.7	1.3	30.6	25+	15.6	26	0	0			41	-32	15	19	0	0	0	5.5	7	15.6	E	16+	14	14	3	4.1	71
LIHUE	31	1013.5	1018.9	26.0	20.7	23.4	1.3	27.8	27	18.9	31+	0	0	18.3	76	60	-58	16	25	0	0	0	5.8	7	13.9	NE	4	3	18	10	6.6	77
IDAHO																																
BOISE	865	914.0	1015.5	10.7	-2.0	4.3	-0.7	21.1	22	-6.7	18	0	26	-5.6	54	22	-4	10	10	0	74	25	0.7	32	18.8	NW	27	2	10	19	7.6	55
LEWISTON	431			10.6	0.7	5.7	-0.4	20.0	22	-4.4	14	0	15			23	-1	12	11		51	25			21.5Y		27	0	3	28	9.4	
POCATELLO	1358	859.5	1014.5	6.9	-3.7	1.6	-0.3	17.8	23	-8.9	4	0	29	-7.2	56	20	-4	4	13	0	193	51	3.8	22	17.0	W	27	2	9	20	7.7	59
ILLINOIS																																
CAIRO U	96			17.8	7.7	12.8	4.0	26.1	30	0.6	7+	0	0			224	103	96	11		0	0			21.5	SW	28					73
CHICAGO O HARE	201	988.2	1012.8	11.9	2.4	7.2	5.1	21.7	15	-6.7	2+	0	11	0.0	64	93	29	34	14	2	124	51	2.3	21	17.0	22	29	7	8	16	6.5	
CHICAGO MIDWAY	185	990.5	1013.4	11.7	2.4	7.1	4.4	22.2	15	-7.2	2	0	12	0.0	64	99	30	32	13	1	254	127	2.4	20	21.0	S	29	7	9	15	6.3	57
MOLINE	177	990.5	1012.4	11.6	1.3	6.4	4.4	23.9	26	-10.0	22	0	14	0.0	66	117	52	30	15	0	274	102	2.1	20	16.1	SE	28	10	7	14	5.9	46
PEORIA	199	988.8	1013.1	12.3	1.7	7.0	4.1	23.3	26	-7.2	7	0	12	-0.6	62	112	41	53	13	1	61	25	2.3	19	19.7	SW	30	11	3	17	6.0	59
ROCKFORD	221	985.4	1013.0	10.9	0.4	5.7	4.5	21.7	26	-8.3	22+	0	16	-0.6	66	89	22	34	14	0	183	102	1.9	20	17.9	18	28	6	11	14	6.5	
SPRINGFIELD	179	990.9	1013.4	14.0	3.3	8.7	4.6	23.9	26	-8.9	1	0	9	2.8	70	129	61	41	11	3	15	25	2.8	19	20.6	SW	30	9	6	16	6.2	58
INDIANA																																
EVANSVILLE	116	1001.0	1015.2	16.9	4.4	10.7	3.8	27.2	30	-4.4	2	0	8	1.7	58	157	38	68	10	4	T	0	1.4	21	16.5	W	22	11	10	10	5.5	80

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths sunrise to sunset	Possible sunshine
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	984.4	1014.9	11.4	1.2	6.3	3.8	23.9	15	-9.4	2	0	15	0.6	69	114	41	36	10	2	152	127	2.5	22	16.1	SE	12	7	8	16	6.6	61
INDIANAPOLIS	241	985.8	1015.2	13.8	2.3	8.1	3.8	25.6	30	-7.2	2	0	11	2.2	71	97	2	38	13	2	41	T	1.7	20	15.2	NW	22	11	5	15	6.0	56
SOUTH BEND	236	985.1	1013.6	11.1	2.3	6.7	4.9	22.8	15	-7.2	24+	0	9	0.6	68	179	109	47	13	4	401	127	2.4	20	14.8	23	29	8	6	17	6.7	
IOWA																																
BURLINGTON	211			12.1	2.0	7.1	4.3	23.9	8	-8.3	22+	0	12	0.0	63	118	51	44	13	1	203	76	2.0	20	15.6	13	28	11	4	16	6.0	
DES MOINES	286	975.6	1010.7	12.5	1.6	7.1	6.0	25.6	8	-11.7	1	0	13	-0.6	62	91	32		13	3	122		1.5	21	19.2	SW	29	11	4	16	6.3	56
DUBUQUE	322	972.6		10.0	0.5	5.3	5.2	21.1	26	-8.9	1	0	19			122	47	43	14		241	76										
SIOUX CITY	334	969.9	1010.2	10.4	-0.8	4.8	4.2	21.7	24	-12.8	1	0	16	0.0	77	103	66	39	10	0	239	178	0.2	19	18.8	SW	29	9	7	15	6.5	56
WATERLOO	265	979.0	1011.4	9.9	-0.9	4.5	4.8	23.9	8	-12.2	1	0	20	-1.1	69	77	20	38	13	1	79	51	1.4	18	16.5	14	17	8	6	17	6.7	
KANSAS																																
CONCORDIA	448	956.3	1009.5	14.8	1.3	8.1	4.1	25.6	8	-10.6	1	0	12	-0.6	60	52	13	28	9	2	T	T	1.5	22	16.1	W	30	13	5	13	5.2	73
DODGE CITY	787	918.4	1009.3	17.3	0.3	8.8	3.7	28.3	25	-8.3	6+	0	16	-3.9	48	13	-15	9	5	1	8	T	1.9	24	21.0	NW	12	15	7	9	4.4	75
GOODLAND	1114	880.8	1009.1	11.4	-3.8	3.8	1.4	23.3	25	-9.4	31	0	27	-4.4	63	45	23	31	6	4	358	254	1.5	29	18.3	35	12+	17	4	10	4.4	
TOPEKA	267	979.0	1011.0	16.5	3.1	9.8	4.7	27.8	8	-6.7	1	0	11	1.1	58	52	-3	27	7	3	T	T	2.1	19	16.5	SW	28	9	7	15	6.0	57
WICHITA	403	962.8	1010.9	17.7	2.4	10.1	3.7	27.8	14	-6.1	6+	0	14	0.6	56	36	-9	32	6	1	T	0	2.4	21	24.1	SE	10	12	6	13	5.4	72
KENTUCKY																																
COVINGTON	265	983.7	1015.6	14.5	1.6	8.1	2.7	27.8	30	-13.9	2	0	15	0.0	60	115	11	40	12	3	137	127	2.1	22	19.7	25	4	8	10	13	5.9	
LEXINGTON	294	980.4	1016.2	16.7	4.2	10.4	4.0	27.8	30	-7.2	2	0	8	1.1	55	107	-15	42	12	3	T	T	2.1	18	14.3	24	22+	9	9	13	6.0	
LOUISVILLE	145	998.0	1015.6	17.3	4.6	10.9	4.3	28.3	30	-5.6	2	0	7	2.2	58	119	-9	52	12	2	T	T	1.7	21	15.2	S	29+	9	9	13	5.6	62
LOUISIANA																																
ALEXANDRIA	28	1011.2	1015.5	22.9	9.6	16.3	2.8	29.4	30+	1.1	23+	0	0	10.0	71	259	133	142	10	5	0	0	0.9	15	13.9	18	3	7	6	18	7.0	
BATON ROUGE	20	1013.5	1016.3	22.8	11.3	17.1	1.7	30.6	18	2.2	8+	0	0	11.7	75	123	-7	38	13	6	0	0	1.2	14	11.6	17	3	3	9	19	7.5	
LAKE CHARLES	3	1014.2	1015.4	21.8	11.6	16.7	1.0	27.2	18	3.9	7	0	0	11.1	74	68	-30	26	15	4	0	0	2.2	14	16.1	17	27	4	7	20	7.8	
NEW ORLEANS	1	1015.2	1016.0	23.4	13.3	18.3	2.4	28.9	30+	1.1	9	0	0	13.9	78	101	-39	34	13	3	0	0	1.3	13	12.5	21	4+	3	6	22	8.0	49
SHREVEPORT	77	1005.8	1014.9	22.4	8.2	15.3	1.6	30.0	15	-1.1	7	0	2	7.2	64	125	21	56	9	4	0	0	1.2	17	14.3	29	27	9	3	19	6.6	55
MAINE																																
CARIBOU	190	987.5		4.4	-4.1	0.2	4.8	14.4	12	-12.8	2	0	25			60	4	18	11		406	1295						3	9	19	7.5	
PORTLAND	13	1009.8	1012.2	6.9	-2.3	2.3	2.4	23.9	30	-11.1	20	0	23	-1.7	77	176	84	81	12	1	490	330	1.7	31	16.1	NW	25	10	6	15	6.3	57
MARYLAND																																
BALTIMORE	45	1010.5	1016.2	16.4	3.6	10.0	4.0	29.4	30	-4.4	3	0	10	0.6	57	100	6	45	6	1	T	0	2.1	28	20.6	W	31	12	9	10	5.2	66
MASSACHUSETTS																																
BLUE HILL OBS R	192			10.1	0.9	5.5	3.7	28.3	30	-6.7	2	0	13			143	28	45	14		323	203			30.0	E	22					53
BOSTON	5	1012.2	1013.1	11.4	2.7	7.1	3.7	27.2	30	-2.8	2	0	10	-0.6	63	121	19	41	13	2	272	229	2.5	30	26.8	NE	22	9	8	14	5.9	61
WORCESTER	301	975.3		8.2	-0.3	3.9	3.2	26.7	30	-7.8	2	0	17	-3.3	64	146	48	48	14	1	546	406	3.0	29	14.3	30	17	6	11	14	6.4	
MICHIGAN																																
ALPENA	210	987.8	1013.8	7.3	-3.0	2.2	5.4	22.8	29	-12.8	1	0	25	-2.8	74	63	16	17	13	2	86	229	0.6	24	13.0	SW	29	8	9	14	6.3	56
DETROIT	189			10.8	2.6	6.7	4.8	24.4	29	-6.1	1	0	11	-1.1	59					1			2.1	22	16.5	21	4					
DETROIT METRO	193	990.2	1014.6	10.6	-0.1	5.3	3.4	25.0	15	-10.0	2	0	17	-1.7	64	91	28	28	13	2	312	178	2.1	24	18.8	W	16	9	6	16	6.3	59
FLINT	235	985.4	1013.8	8.9	-0.9	4.0	3.7	21.7	29	-11.1	1	0	17	-2.8	64	71	17	27	13	1	130	102	2.0	22	15.6	23	29	6	9	16	7.0	
GRAND RAPIDS	239	984.1	1013.7	9.6	-0.7	4.4	3.8	22.8	15	-12.2	1	0	19	-1.1	70	97	33	36	15	3	241	152	1.9	20	17.4	SW	29	8	7	16	6.6	47
HOUGHTON LAKE	350	970.5	1013.5	6.8	-3.7	1.6	4.5	19.4	15	-18.3	1	0	24	-2.8	74	61	17	22	14	2	107	229	0.7	24	13.9	22	29	7	9	15	6.7	
LANSING	256	981.7	1013.9	9.7	-0.6	4.6	4.1	22.8	15	-12.2	19+	0	18	0.0	77	67	7	21	13	0	221	152	2.0	22	19.2	SW	29	9	7	15	6.6	56
MARQUETTE U	206			5.2	-2.7	1.3	3.8	14.4	9	-11.1	1	0	21			104	56	36	14		424	762			11.6	S	29+					52
MUSKEGON	191	990.2	1013.5	8.0	-0.5	3.8	3.4	21.1	11	-17.2	1	0	18	-1.1	74	88	28	28	14	3	236	305	1.8	19	14.8	20	29	10	5	16	6.3	
SAULT STE MARIE	220	986.1	1013.4	2.5	-6.3	-1.9	2.6	11.1	29	-18.3	24	0	27	-3.9	84	121	77	31	16	0	470	991	0.3	34	15.6	NW	16	5	8	18	7.0	57
MINNESOTA																																
DULUTH	435	959.7	1012.2	3.5	-4.2	-0.3	4.4	13.3	8	-15.6	1	0	22	-5.0	72	113	68	60	13	1	389	381	1.5	5	18.3	NE	28+	4	9	18	7.5	43
INTERNATIONAL FALLS	359	968.2	1012.5	4.3	-6.9	-1.3	5.0	14.4	8	-21.1	2	0	26	-6.7	68	49	21	21	13	0	356	305	0.4	6	11.6	13	24	6	6	19	7.5	
MINNEAPOLIS	254	980.4	1011.4	7.6	-1.5	3.1	5.1	20.0	25	-13.3	1	0	20	-2.8	68	68	25	17	16	1	371	229	0.8	8	14.3	SW	22	7	6	18	7.0	55
ROCHESTER	395	962.4	1011.0	8.6	-1.1	3.7	6.1	19.4	26	-13.3	1	0	18	-1.1	75	75	31	18	13	1	191	102	1.2	17	17.9	23	29	5	6	20	7.3	
ST CLOUD	313	973.9	1012.0	6.8	-3.7	1.6	4.9	18.9	25	-17.8	1	0	21			77	43	37	11		218	203						9	5	17	6.5	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation, ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days sunrise to sunset			Sky cover tenths, sunrise to sunset	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile 1.6 kilometers							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1004.1	1016.1	21.8	8.9	15.4	2.0	29.4	30	0.0	8	0	1	8.3	66	163	20	78	11	5	0	0	1.4	14	13.4	15	3	6	7	18	6.9	54
MERIDIAN	88	1006.1	1017.2	21.1	7.8	14.4	1.1	28.3	18	-1.1	8	0	3	7.8	70	321	163	71	13	5	0	0	0.8	17	11.6	13	11+	6	8	17	7.0	
MISSOURI																																
COLUMBIA REGIONAL	270	979.7	1012.2	14.2	2.7	8.4	3.1	26.1	14	-7.2	1	0	9	1.1	64	92	27	43	9	4	20	51	2.4	19	22.4	SW	30	10	7	14	5.9	63
KANSAS CITY	309	973.9	1010.9	14.2	3.5	8.9	3.8	25.0	8	-7.2	1	0	9			66	1	26	9	2	T	0	2.6	19	15.6	SW	28	8	10	13	5.9	76
ST JOSEPH	247			14.6	3.4	9.0	4.6	25.0	8	-6.7	1	0	8			59	-2	20	7		T	0										
ST LOUIS	163	993.6	1013.9	15.8	3.7	9.8	3.5	27.2	14	-5.0	2+	0	7	2.8	67	160	83	75	11	2	T	51	2.0	20	16.1	SE	28	12	6	13	5.5	56
SPRINGFIELD	386	967.2	1012.8	16.4	2.8	9.7	3.0	25.6	14	-5.0	22+	0	10	1.7	61	87	11	34	8	3	0	0	2.9	19	16.1	SW	28	11	9	11	5.4	75
MONTANA																																
BILLINGS	1087	885.9	1011.5	8.0	-3.6	2.2	1.9	21.7	23	-12.2	20	0	27	-9.4	47	35	9	14	11	1	348	152	3.0	28	19.7	NW	8	3	10	18	7.5	69
GLASGOW	696	928.2	1011.8	7.7	-6.0	0.9	4.7	20.0	23	-14.4	20	0	30	-6.7	61	3	-7	2	3	0	18	T	0.7	36	17.4	3	29	7	7	17	6.6	
GREAT FALLS	1116	883.2	1012.9	6.9	-4.7	1.1	1.9	18.9	23	-15.6	20	0	26	-8.3	53	48	24	29	9	0	546	381	4.5	24	19.7	SW	8	0	9	22	8.5	46
HAVRE	788	917.7		9.7	-6.6	1.6	4.6	23.9	23	-20.6	30	0	28			52	39	46	7	0	765	711	2.5	25	17.9	SW	8					77
HELENA	1167	876.7	1014.6	6.0	-5.6	0.2	1.0	18.3	23	-16.1	20	0	31	-7.2	58	28	11	11	9	0	358	178	2.7	28	14.3	W	8	0	8	23	8.6	41
KALISPELL	904	907.9	1014.2	6.3	-3.3	1.5	2.3	13.9	22+	-14.4	20	0	26	-3.9	70	30	8	7	14	3	376	102	1.8	18	10.3	5	19	1	4	26	8.9	
MILES CITY	801	916.7	1011.2	8.7	-4.1	2.3	3.3	21.7	23	-12.8	20	0	28	-5.6	61	25	8		7	0	137		1.7	31								
MISSOULA	972	901.1	1015.1	6.7	-4.3	1.2	0.5	15.6	23+	-11.7	20	0	29	-4.4	72	25	7	10	14	0	318	178	1.0	29	14.8	NW	27	0	2	29	9.4	39
NEBRASKA																																
GRAND ISLAND	561	942.8	1009.6	11.8	-1.6	5.2	3.2	26.7	8	-12.2	1	0	20	-1.1	67	84	54	33	7	2	318	203	0.9	28	16.5	32	30+	12	5	14	5.9	
LINCOLN	359	966.8	1009.8	13.1	-0.3	6.4	3.9	26.1	8	-13.9	1	0	15	-0.6	66	90	51	37	6	1	211	152	0.8	23	19.2	SE	11	11	5	15	5.8	58
NORFOLK	471	952.9	1009.1	11.1	-1.0	5.1	4.6	22.8	8	-12.8	1	0	18	-1.7	66	91	56	32	8	1	226	51	1.2	26	20.1	23	29	10	7	14	6.3	
NORTH PLATTE	846	910.9	1010.0	10.1	-4.6	2.8	1.5	22.8	8	-13.3	1	0	26	-3.9	66	73	48	31	8	3	251	127	2.1	33	26.4	N	11	10	7	14	6.0	64
OMAHA	298	974.6	1010.0	14.0	1.7	7.8	5.0	27.8	8	-10.6	1	0	11	1.1	69	94	54	35	10	3	94	T	1.0	20	16.1	SW	30	10	7	14	6.2	54
SCOTTSBLUFF	1206	873.0	1010.4	10.9	-4.2	3.4	2.1	22.8	24+	-11.1	6	0	29	-7.2	52	52	33	27	9	2	277	102	2.9	32	15.6	33	12+	7	9	15	6.6	
VALENTINE	789	916.7		6.3	-5.5	0.4	0.9	18.9	24	-20.0	21	0	28	-4.4	72	107	88	42	11		1295	381	2.2	31	21.9	NW	12	12	7	12	5.5	64
NEVADA																																
ELKO	1539	842.2	1015.1	8.7	-5.6	1.6	-0.1	20.0	22	-12.2	14	0	29	-10.0	45	3	-18	1	5	0	38	T	1.7	27	17.9	32	27	5	6	20	7.0	
ELY	1906	804.9	1014.8	6.6	-10.6	-2.0	-2.4	19.4	22	-20.6	31	0	31	-16.7	35	19	-3	6	10	0	284	102	1.3	28	25.9	NW	27	7	11	13	6.2	
LAS VEGAS	659	937.0	1013.7	18.7	4.2	11.4	-1.2	27.2	22	-0.6	15	0	1	-10.6	24	7	-1	7	1	0	0	0	2.1	28	23.2	NW	10	23	5	3	2.6	87
RENO	1342	864.9	1016.2	11.4	-4.7	3.4	-1.2	22.8	22	-11.7	28+	0	28	-7.2	49	5	-13	3	4	0	30	25	1.1	31	17.9	NW	27	8	9	14	6.0	81
WINNEMUCCA	1311	866.9	1015.9	12.1	-6.3	2.9	-0.2	25.0	22	-13.9	14	0	29	-9.4	43	9	-9	3	4	0	122	51	1.3	27	20.1	NW	27	6	12	13	6.6	67
NEW HAMPSHIRE																																
CONCORD	104	1000.0	1013.0	8.6	-3.4	2.6	2.4	29.4	30	-16.1	20	0	23	-2.8	71	115	44	43	14	1	566	254	1.8	30	14.3	W	17	7	11	13	6.3	52
MT WASHINGTON OBS	1909			-4.5	-10.9	-7.7	3.5	8.3	30	-22.2	2	0	29			406	264	73	24	1	2474	635			62.1Y	W	17	2	5	24	8.5	25
NEW JERSEY																																
ATLANTIC CITY	20	1013.2	1015.6	13.4	1.9	7.7	2.6	26.7	29	-5.0	3	0	12	0.0	63	87	-23	38	6	0	0	0	2.6	26	19.7	28	31	13	7	11	5.3	63
ATLANTIC CITY U	3			11.2	3.9	7.6	2.4	19.4	31	-3.3	25	0	7			58	-38	29	6						17.0	WNW	23					
NEWARK	2	1013.9	1014.8	13.1	3.3	8.2	3.4	28.9	30	-4.4	25	0	8	-0.6	60	144	44	66	8	0	43	25	2.4	29	14.8	29	31	14	6	11	5.2	
TRENTON U	17			13.7	3.9	8.8	3.7	28.3	30	-3.9	25	0	7			124	28	57	8		T	T			18.8	NW	25+	14	7	10	4.9	66
NEW MEXICO																																
ALBUQUERQUE	1619	833.4	1011.0	14.4	-2.0	6.2	-1.4	21.1	9	-9.4	3	0	23	-11.1	33	16	4	16	3	2	58	51	1.3	27	19.7	W	17	13	11	7	4.5	70
CLAYTON	1515			14.2	-2.7	5.8	1.1	23.3	13	-8.3	6+	0	24			4	-13	3	2		15	25										
ROSWELL	1112	885.5	1009.9	20.1	2.2	11.2	1.6	28.3	13	-5.0	6	0	7	-6.7	34	7	-5	5	3	0	23	0	1.7	20	22.4	SW	17+	17	8	6	3.6	90
NEW YORK																																
ALBANY	84	1003.7	1014.5	10.1	-1.2	4.4	3.7	29.4	30	-14.4	20	0	18	-2.2	65	150	84	54	12	2	386	203	2.7	28	18.3	NW	31+	7	9	15	6.4	44
BINGHAMTON	485	955.6	1015.3	7.8	-1.2	3.3	3.7	27.8	30	-9.4	24	0	18	-2.8	69	130	57	36	13	3	394	203	2.4	26	14.3	W	31+	8	9	14	6.4	51
BUFFALO	215	988.8	1014.9	9.1	-0.4	4.3	4.3	24.4	30	-9.4	24	0	18	-1.7	70	61	-11	17	13	3	343	152	3.3	23	16.1	SW	16	10	3	18	6.5	51
NEW YORK U	40	1011.9	1014.8	12.8	3.6	8.2	3.2	27.2	29	-4.4	25+	0	7	0.0	61	188	93	87	7	0	15	T	1.5	31	10.7	NW	31					70
NEW YORK KENNEDY	4	1014.2	1014.9	10.6	2.4	6.5	2.4	20.0	31	-4.4	25	0	9	0.0	68	119	24	61	8	0	T	T	2.2	29	16.1	29	31	13	8	10	5.0	
NEW YORK LA GUARDIA	3	1013.9	1015.0	11.9	3.2	7.6	2.8	25.6	29	-3.9	25+	0	7	-1.1	59	167	66	80	7	0	10	T	2.1	29	18.8	NW	31	13	8	10	5.0	
ROCHESTER	167	994.2	1014.9	9.7	-1.1	4.3	3.8	27.8	30+	-10.0	26	0	18	-0.6	74	55	-10	19	14	1	330	152	3.0	25	20.6	W	30	8	7	16	6.3	63

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation, ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days sunrise to sunset			Sky cover, tenths sunrise to sunset	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days Max 32.2 °C or above	No. of days Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days 25 mm or more	No. of days With thunderstorms	Snow, Ice pellets Total	Snow, Ice pellets Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers) Speed	Fastest mile Direction	Fastest mile Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	999.7	1014.8	9.4	-0.4	4.5	3.8	29.4	30	-10.0	20	0	15	-2.2	65	88	11	31	13	2	343	127	2.0	26	17.9	W	31	7	6	18	6.7	50
NORTH CAROLINA																																
ASHEVILLE	652	941.1	1017.7	16.8	3.9	10.4	2.7	25.6	15	-7.8	1	0	8	1.1	58	185	67	62	13	1	0	0	0.6	34	11.6	32	22	11	6	14	5.9	55
CAPE HATTERAS R	2	1018.0	1018.3	17.4	8.3	12.9	2.6	26.1	16	-2.8	3	0	4	7.8	71	102	4	44	10	2	0	0	0.6	30	13.0	22	18	9	5	17	6.0	61
CHARLOTTE	224	990.2	1017.8	18.8	6.6	12.7	2.4	25.6	18+	-3.3	2+	0	5	3.9	60	215	100	97	13	3	0	0	0.4	22	21.9	SW	18	10	6	15	6.1	53
GREENSBORO	273	985.8	1017.6	18.2	5.4	11.8	3.1	25.6	18+	-5.6	1	0	3	3.3	61	71	-24	17	11	0	0	0	1.3	24	15.6	W	22	12	5	14	5.8	65
RALEIGH	132	1001.7	1017.7	18.7	4.9	11.8	2.3	26.1	31	-5.6	1	0	8	3.9	65	143	56	41	9	2	0	0	1.1	24	13.0	28	22	12	4	15	5.8	68
WILMINGTON	9	1017.3	1018.6	20.3	8.4	14.4	2.0	29.4	31+	-0.6	1	0	1	8.3	73	144	41	41	11	2	0	0	0.6	23	16.5	NW	22	9	4	18	6.6	60
NORTH DAKOTA																																
BISMARCK	502	950.9	1011.8	7.3	-5.3	1.0	4.8	20.0	24	-16.7	1	0	30	-5.6	66	18	-1	14	8	0	41	25	1.3	2	17.9	NE	29	10	8	13	6.0	62
FARGO	273	977.7	1011.1	5.0	-5.0	0.0	4.3	15.6	27+	-17.8	2+	0	24	-4.4	75	44	23	18	9	0	117	102	0.8	7	14.8	SE	24	4	11	16	6.8	62
WILLISTON	579	942.1	1011.9	7.9	-5.8	1.1	5.1	17.2	27	-13.3	20	0	30	-6.1	64	1	-15	1	1	0	T	T	1.2	34	21.0	NE	29	9	6	16	6.4	64
OHIO																																
AKRON	368	970.9	1015.8	12.6	1.4	7.1	4.7	26.1	30	-7.2	2	0	16	-2.2	55	92	12	28	13	4	25	T	2.2	23	13.0	30	22	10	8	13	5.8	
CINCINNATI ABBE OB	232			15.3	3.2	9.2	3.2	27.8	30	-7.8	2	0	12			106	1	35	11						14.8	W	4					44
CLEVELAND	237	986.5	1016.1	11.6	0.3	5.9	3.7	26.7	30	-10.0	2	0	16	-0.6	68	114	37	37	11	2	107	25	2.2	23	13.0	SW	30	9	7	15	6.2	58
COLUMBUS	247	985.8	1016.2	13.4	1.6	7.6	3.6	27.2	30	-8.3	2	0	15	-2.2	53	99	11	35	10	3	8	T	1.7	21	21.0	SW	4	7	9	15	6.2	51
DAYTON	303	979.0	1015.5	13.7	1.4	7.6	3.7	26.7	30	-9.4	2	0	16	1.1	67	89	7	24	11	1	30	25	2.2	22	20.1	W	4	6	11	14	6.3	62
MANSFIELD	395			10.8	0.3	5.6	2.2	23.9	30	-8.9	2	0	17	-0.6	70	108	36	34	10	3	51	T	3.2	22	14.3	22	30+	9	7	15	6.0	
TOLEDO	204	989.2	1014.9	10.8	-0.2	5.3	3.2	25.0	30+	-10.0	19	0	18	-0.6	68	113	49	24	11	4	381	178	1.9	23	17.0	W	16+	10	6	15	6.2	56
YOUNGSTOWN	359	972.6	1015.8	11.3	0.2	5.7	3.9	26.7	30	-9.4	25	0	18	-2.2	61	113	31	40	13	2	84	51	2.1	24	16.5	26	4	6	12	13	6.5	
OKLAHOMA																																
OKLAHOMA CITY	392	965.5	1012.1	19.3	5.3	12.3	3.3	27.8	14	-2.8	22	0	5	0.0	48	33	-19	14	6	2	0	0	2.3	20	23.7	SE	10	14	5	12	5.0	
TULSA	198	987.8	1012.2	19.2	6.3	12.8	3.7	29.4	14	-1.7	6	0	4	1.7	50	142	78	44	6	2	0	0	2.7	20	17.4	SE	11	12	9	10	5.2	69
OREGON																																
ASTORIA	2	1017.6	1018.4	10.4	3.5	7.0	0.1	13.3	30	-1.7	16	0	3	3.3	79	247	79	34	26	2	T	0	2.2	23	14.3	17	8+	1	7	23	8.5	
BURNS	1265			8.2	-5.2	1.5	-0.8	19.4	22	-11.1	13	0	29			7	-17	4	7		84	76			27.7Y	NW	27	5	9	17	7.1	
EUGENE	109	1006.1	1020.0	12.6	1.7	7.2	-0.6	20.0	22+	-2.8	14	0	8	2.8	78	118	6	29	19	0	T	0	2.0	21	12.5	30	27+	0	7	24	8.5	
MEDFORD	396	971.9	1020.4	12.5	-0.3	6.1	-1.0	22.2	22	-3.3	16+	0	18	0.6	73	28	-13	12	8	0	T	T	0.9	31	12.5	21	7	3	10	18	7.5	
PENDLETON	452	961.7	1016.1	11.5	2.1	6.8	0.2	21.1	22	-1.1	30+	0	7	-1.1	62	38	13	17	13	0	10	0	3.8	26	16.5	28	27	1	9	21	8.2	
PORTLAND	6	1017.3	1018.7	11.6	3.4	7.5	-0.1	17.8	22	-1.7	5	0	4	2.8	75	89	-4	14	19	2	T	0	2.1	22	18.3	SW	8	1	6	24	8.7	42
SALEM	60	1011.5	1019.0	12.1	1.7	6.9	-0.4	17.8	21	-2.8	11	0	10	2.2	73	85	-25	24	17	1	T	T	2.7	22	13.9	21	7	1	9	21	8.3	
SEXTON SUMMIT R	1169	884.2	1019.5	5.2	-2.0	1.6	-1.6	16.1	22	-5.6	14	0	26	-1.7	84	76	-11	15	18		691	279			26.8	21	7					
PACIFIC AREA																																
GUAM TAGUAC R	110			28.8	21.9	25.4	0.0	30.0	12	20.0	4	0	0			126	52	22	27		0	0			14.3	NE	6	0	13	18	7.9	72
JOHNSTON	2	1013.5	1014.0	26.9	22.8	24.9	0.1	27.8	31+	20.6	27	0	0	20.0	74	29	-44	10	13	0	0	0	6.8	8	18.3	E	6	11	17	3	4.7	89
KOROR R	29	1007.1		31.2	24.1	27.7	0.4	32.2	22	22.8	14+	1	0			91	-106	32	18	0	0	0	3.9	5	10.7	E	21	0	8	23	8.5	60
KWAJALEIN	2	1009.1		30.5	25.2	27.8	0.2	31.7	9+	23.3	7+	0	0			120	-38	95	14	0	0	0	6.6	7	10.3	E	29+	0	8	23	8.2	
MAJURO	3	1009.1		30.2	24.8	27.5	0.2	31.1	10+	23.9	31+	0	0			66	-169	18	14		0	0	6.4	7	11.6	E	31+	0	2	29	9.5	78
PAGO PAGO	4	1007.5	1007.7	30.5	24.4	27.4	0.6	32.2	9	22.8	30+	1	0	23.9	84	296	-11	48	27	1	0	0	1.2	35	14.3	N	13+	0	9	22	8.6	37
PONAPE R	37			30.8	24.6	27.7	0.6	32.2	4	23.3	29+	1	0			321	-61	140	19	1	0	0			11.6	E	26	0	3	28	9.2	27
TRUK MOEN ISLAND	2	1009.5		30.1	24.8	27.4	0.1	30.6	29+	23.3	31+	0	0			211	8	68	22	0	0	0	5.1	6	11.2	E	5	0	0	31	9.7	48
WAKE	3	1015.2	1015.7	27.9	21.6	24.8	-0.6	30.0	22+	18.3	16	0	0	21.1	84	141	100	57	20	0	0	0	7.4	5	15.2	E	26	8	17	6	5.4	70
YAP R	13	1008.8		30.9	23.9	27.4	0.2	31.7	31+	22.2	17+	0	0			61	-80	23	15	0	0	0	4.6	7	8.9	NE	24+	0	11	20	7.6	68
PENNSYLVANIA																																
ALLENTOWN	118	1001.7	1015.7	13.1	1.8	7.4	4.1	28.9	30	-4.4	25+	0	13	-0.6	60	150	58	64	9	1	38	25	2.8	29	16.5	29	24+	13	8	10	5.1	
ERIE	223	988.5	1015.9	9.7	-0.2	4.8	4.3	26.1	30	-9.4	25	0	19	-0.6	74	88	18	20	14	3	114	51	3.0	22	12.5	6	18+	11	5	15	[illegible]	
HARRISBURG	103	1003.1	1015.9	13.6	1.9	7.8	2.8	28.9	30	-5.6	3	0	13			155	73	52	8	2	5	0	2.1	30	13.9	NW	19	14	9	8	4.5	77
PHILADELPHIA	2	1014.9	1015.8	15.2	3.4	9.3	3.8	29.4	30	-4.4	2	0	8	1.1	60	106	13	48	6	1	T	0	2.4	28	17.9	NW	31	13	8	10	5.1	65
PITTSBURGH	347	971.9	1016.4	12.6	0.4	6.5	3.1	26.7	30	-9.4	2	0	18	-2.8	55	105	13	29	15	5	73	25	2.1	25	14.3	27	18	9	8	14	6.0	52
SCRANTON	283	980.7	1015.5	9.8	-0.4	4.7	2.5	28.3	30	-8.3	25	0	18	-2.8	63	123	59	40	12	4	284	127	1.8	28	15.2	SW	21+	11	7	13	5.7	62
WILLIAMSPORT	160	996.3	1015.8	13.0	1.1	7.1	4.0	30.0	30	-5.6	25+	0	16	-1.7	58	146	56	41	9	0	216	152	1.8	30	13.0	28	31+	12	8	11	5.5	
RHODE ISLAND																																
BLOCK ISLAND	34			7.8	1.2	4.5	1.8	23.3	30	-4.4	2	0	13			102	3	37	11		76	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Ice pellets		Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers) Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							
RHODE ISLAND																																
PROVIDENCE	16	1011.2	1013.4	11.5	1.4	6.4	3.7	25.6	30	-5.0	20	0	15	-1.1	62	143	41	42	14	0	112	102	2.1	30	14.8	30	31	13	5	13	5.6	64
SOUTH CAROLINA																																
CHARLESTON	12	1016.9	1018.9	21.7	10.0	15.9	2.3	29.4	31+	0.0	1	0	1	8.3	67	135	14	60	12	2	0	0	0.8	21	14.3	28	22	7	8	16	6.5	74
CHARLESTON U	3			20.7	12.2	16.5	2.6	31.1	16	2.2	1	0	0			144	30	51	12		0	0										
COLUMBIA	65	1009.8	1018.1	22.2	8.5	15.3	3.0	31.1	15	-2.8	1	0	4	6.7	62	161	42	58	13	4	0	0	0.6	24	11.2	30	22+	8	6	17	6.6	60
GRNVLLE-SPRTNBRG	292	982.7	1017.5	18.7	6.3	12.5	2.0	25.6	31+	-4.4	1	0	4	4.4	63	215	80	83	12	3	0	0	0.4	26	14.3	SW	18	13	3	15	5.9	66
SOUTH DAKOTA																																
ABERDEEN	395	962.4	1010.4	5.7	-3.9	0.9	3.6	21.7	24	-22.2	1	0	21	-2.8	80	88	64	31	9	1	229	254	1.5	3	19.7	36	12+	6	9	16	7.0	
HURON	390	962.8	1009.9	6.1	-4.0	1.1	2.7	22.2	24	-18.9	1	0	21	-2.2	81	150	122	66	11	1	231	305	0.8	6	20.1	NE	11	5	8	18	7.1	62
RAPID CITY	964	898.7	1011.2	9.2	-4.3	2.4	2.9	22.2	24	-10.6	30	0	29	-5.6	61	67	42	22	10	0	660	432	3.9	34	25.0	NW	8	7	11	13	6.4	60
SIOUX FALLS	432	957.7	1010.0	7.2	-2.8	2.2	3.3	21.1	24	-13.9	21+	0	20	-2.2	75	91	56	28	13	0	343	305	0.6	7	14.8	21	29	8	6	17	6.7	
TENNESSEE																																
BRISTOL	459	963.1	1017.6	16.7	3.3	10.0	2.3	25.0	29	-7.8	2	0	11	1.1	58	123	24	67	14	3	10	T	1.1	24	14.3	26	18	11	5	15	5.8	
CHATTANOOGA	203	992.6	1017.2	18.4	5.6	12.0	2.1	26.1	30	-4.4	2	0	6	5.6	68	213	70	86	14	2	0	0	0.6	22	11.6	26	18	9	6	16	6.0	57
KNOXVILLE	299	982.1	1017.2	19.1	6.4	12.8	2.8	26.7	15	-5.0	2	0	4	5.0	62	154	31	76	12	3	0	0	1.2	26	16.1	22	18	9	6	16	6.1	79
MEMPHIS	79	1005.8	1015.9	20.4	9.2	14.8	4.2	27.8	30+	1.1	7	0	0	4.4	52	105	-25	65	8	3	0	0	2.0	20	15.6	25	28	13	3	15	5.7	75
NASHVILLE	180	994.6	1016.4	18.4	5.8	12.2	2.9	27.8	30	-3.3	23	0	5	2.2	54	148	21	77	9	0	0	0	1.7	21	13.4	29	22	10	8	13	5.7	66
OAK RIDGE R	276			17.9	3.0	10.4	1.8	25.6	15	-6.7	2	0	11			138	-1	58	11		T	0			17.4Y		28+	11	7	13	5.7	
TEXAS																																
ABILENE	544	949.5	1012.1	21.4	6.2	13.8	1.3	30.0	17	-2.8	6	0	4	0.0	43	60	35	57	3	3	0	0	2.4	19	17.0	S	17	13	9	9	4.6	70
AMARILLO	1098	886.2	1009.7	17.4	1.1	9.3	1.7	26.7	13+	-5.0	6	0	13	-5.0	41	6	-13	6	1	0	T	0	3.4	25	25.9	34	11	13	11	7	4.4	75
AUSTIN	182	991.5	1013.7	22.4	10.1	16.3	1.0	30.0	15	1.7	7+	0	0	6.7	60	55	7	27	7	3	0	0	0.8	13	13.4	N	19	7	9	15	6.6	53
BROWNSVILLE	6	1012.2	1012.7	25.9	15.2	20.6	0.7	32.8	18	3.3	8	1	0	15.6	75	3	-14	1	4	0	0	0	3.0	14	16.5	S	27	5	6	20	7.2	51
CORPUS CHRISTI	12	1011.5	1013.2	24.9	12.9	18.9	0.6	31.1	19	2.2	7	0	0	13.9	76	24	-4	9	10	1	0	0	3.0	11	13.9	30	27+	6	6	19	7.5	57
DALLAS - FORT WORTH	168	992.2	1013.4	20.3	7.7	14.0	1.2	27.8	29+	1.1	6	0	0	5.0	59	149	85	112	6	4	0	0	1.7	20	13.9	27	11	10	8	13	5.6	
DEL RIO	313	976.0	1011.8	24.2	10.0	17.1	0.1	31.7	29	1.1	7+	0	0	3.9	48	22	4	22	2	3	0	0	2.1	11	14.3	31	3	8	7	16	6.2	
EL PASO	1194	878.8	1011.0	18.4	1.2	9.8	-2.7	24.4	31	-7.8	6	0	13	-10.6	25	4	-6	4	1	1	0	0	2.3	26	21.5	30	10	17	7	7	3.6	91
GALVESTON	2			19.3	14.2	16.8	0.7	24.4	30	8.9	6+	0	0			35	-31	10	7		0	0			14.3	NW	3					33
HOUSTON INTERCON	29	1011.2	1014.8	22.6	9.5	16.1	0.1	29.4	18	0.6	7	0	0	10.6	74	50	-19	18	10	2	0	0	1.4	12	11.2	14	27	5	6	20	7.3	43
LUBBOCK	992	899.8	1010.9	19.4	2.7	11.1	1.7	28.9	13	-5.6	6+	0	8	-5.6	37	21	-2	21	2	1	T	0	2.2	23	20.6	26	17	15	7	9	4.5	80
MIDLAND	869	912.6	1010.7	21.2	4.1	12.7	0.3	32.8	17	-5.6	4	1	3	-5.0	34	15	1	15	2	1	0	0	1.9	21	18.3	25	28	15	8	8	4.2	
PORT ARTHUR	5	1014.2		23.1	11.5	17.3	1.7	28.9	30+	4.4	8+	0	0			57	-21	18	9	4	0	0	2.4	13	13.9	NW	3	4	5	22	7.7	44
SAN ANGELO	580	945.8	1012.1	22.3	6.5	14.4	0.4	30.6	14	-2.2	4	0	3	0.6	43	25	3	23	3	4	0	0	1.8	18	14.3	29	11+	12	6	13	5.2	
SAN ANTONIO	240	985.1	1013.0	23.4	9.7	16.6	0.6	29.4	15	-1.1	7	0	3	6.7	60	22	-17	9	5	2	0	T	1.2	10	11.6	30	27	6	9	16	6.7	68
VICTORIA	32	1009.5	1013.7	24.4	11.6	18.0	1.2	31.1	19	3.9	7	0	0	11.1	70	28	-20	14	7	1	0	0	1.8	11	20.6Y	W	27	5	6	20	7.6	
WACO	153	995.6	1013.7	21.9	8.9	15.4	1.4	28.3	15+	0.6	6	0	0	7.2	63	74	14	39	5	3	0	0	1.8	15	14.8	15	10	9	4	18	6.3	
WICHITA FALLS	303	975.6	1012.4	21.1	5.3	13.2	1.8	29.4	17	-1.7	1	0	6	1.7	51	53	12	46	3	4	0	0	2.2	19	17.0	24	11	14	6	11	4.7	
UTAH																																
MILFORD	1533	842.9	1014.6	9.8	-8.1	0.9	-2.5	20.0	23+	-14.4	5	0	31			20	-7	15	7		249	178			18.8	NE	27	11	8	12	5.3	
SALT LAKE CITY	1286	868.6	1014.3	8.7	-2.4	3.2	-1.1	21.7	23	-10.6	30	0	27	-5.0	61	79	37	20	16	2	1064	356	0.8	22	18.8	N	27	7	7	17	7.0	63
VERMONT																																
BURLINGTON	101	1001.4	1014.0	7.5	-1.3	3.1	4.7	26.7	30	-8.3	2	0	19	-2.2	71	75	26	24	15	1	244	152	1.0	25	15.2	NW	30	2	9	20	8.0	37
VIRGINIA																																
LYNCHBURG	279	983.1		17.1	4.5	10.8	3.3	25.0	29	-6.1	1	0	6			69	-19	21	9		0	0			13.9	SW	31	12	8	11	5.4	69
NORFOLK	7	1016.6	1017.6	18.0	7.2	12.6	3.7	26.7	31	-0.6	3+	0	2	4.4	63	103	16	30	8	0	0	0	1.2	25	13.0	28	22+	12	5	14	5.5	
RICHMOND	50	1010.5	1017.0	19.4	4.6	12.1	3.8	29.4	29	-4.4	1	0	7	2.8	58	68	-18	20	9	0	0	0	1.3	24	14.3	NW	18+	10	5	16	6.0	67
ROANOKE	350	974.6	1017.0	17.7	5.1	11.4	4.0	26.1	29	-5.6	2	0	6	1.1	53	66	-18	33	9	0	T	0	1.8	27	18.8	30	22	10	8	13	5.7	
WALLOPS ISLAND	3			12.6	4.4	8.6	1.9	22.8	31	-1.7	1	0	7			60	-47	19	10		T	0			27.3Y	W	22					
WASHINGTON																																
OLYMPIA	59	1009.5	1016.7	11.6	1.1	6.3	0.1	16.1	5	-3.9	17	0	13	2.8	80	113	-9	27	17	1	20	T	3.0	21	13.4	19	7	0	7	24	8.5	
QUILLAYUTE	55	1008.5	1016.0	9.7	1.6	5.7	0.1	15.0	30	-5.0	17+	0	10	2.8	83	275	1	52	23	1	T	0	1.0	22	13.0	SW	7	2	6	23	8.3	36
SEATTLE U	6			10.5	3.7	7.1	-0.4	15.0	22	1.1	30+	0	0			133	51	27	20		T	0			20.6Y	S	9					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1000.0	1016.7	10.8	4.4	7.6	0.9	15.0	22	1.7	14+	0	0	2.2	72	97	5	21	18	3	23	25	2.5	22	15.6	W	7	1	6	24	8.7	
SPOKANE	718	928.5	1013.6	8.2	-1.3	3.4	0.4	16.1	22	-4.4	28+	0	24	-2.8	68	29	-10	9	11	0	69	25	3.3	21	15.6	NW	27	0	7	24	8.5	40
STAMPEDE PASS R	1206	875.7		0.8	-3.3	-1.2	-0.1	10.0	22	-6.1	13	0	31			301	75	60	27		2718	1753										
WALLA WALLA U	289			11.9	3.1	7.5	-0.1	22.2	22	0.6	16+	0	0			25	-10	8	12		23	T			14.8	SW	27	0	6	25	8.8	33
YAKIMA	321	976.0	1015.0	12.9	-1.0	6.0	0.6	20.6	22	-5.6	14	0	22	-2.2	59	6	-9	3	5	0	T	T	2.1	28	16.5	31	27	3	8	20	7.4	
WEST INDIES																																
SAN JUAN P.R.	4	1014.2	1016.8	29.1	22.3	25.7	1.1	31.1	22	20.6	24	0	0	18.3	65	44	-8	27	10	0	0	0	3.6	8	12.5	E	21	6	20	5	5.5	74
WEST VIRGINIA																																
BECKLEY	763	928.2	1017.5	13.8	2.5	8.2	3.6	25.0	29	-11.1	2	0	10	-0.6	60	63	-44	17	10	5	89	51	2.2	22	25.9	27	18	7	7	17	6.5	
CHARLESTON	286	982.4	1017.0	16.6	3.2	9.9	2.9	28.9	29	-7.8	2	0	12	-1.1	49	80	-22	30	11	4	25	T	1.5	24	14.3	26	18	8	9	14	6.0	
ELKINS	594	945.5		15.3	-0.3	7.5	3.7	27.2	29	-12.2	2	0	18			86	-13	22	11		33	25						9	5	17	6.2	
HUNTINGTON	252	986.1	1016.5	16.8	3.6	10.2	3.4	28.9	29	-10.0	2	0	11	-1.7	47	79	-25	29	9	5	20	25	1.1	24	13.4	29	22	5	12	14	6.3	
PARKERSBURG U	187			15.8	2.8	9.3	3.3	27.8	29	-7.2	2	0	11			74	-21	26	10		20	25			19.7	W	18					64
WISCONSIN																																
GREEN BAY	208	986.5	1012.6	7.4	-1.9	2.8	4.7	16.1	26	-12.2	1	0	21	-2.2	71	119	76	32	17	2	348	152	0.8	21	24.1	SW	29	5	6	20	7.5	52
LA CROSSE	198	987.8	1012.6	9.1	-0.4	4.4	4.9	19.4	26	-11.7	1	0	20	-0.6	75	67	16		15	1	168		0.5	17								
MADISON	262	980.4	1012.1	10.1	-1.5	4.3	5.3	21.1	26	-11.7	1	0	20	-0.6	74	77	28	28	13	0	147	51	1.5	19	15.6	SW	30+	6	9	16	7.1	46
MILWAUKEE	205	987.1	1012.9	8.3	-0.3	4.0	4.3	19.4	15	-11.1	19+	0	18	-0.6	73	116	59	34	14	0	315	127	1.9	21	20.1	SW	29	9	5	17	6.6	49
WYOMING																																
CASPER	1627	831.0	1011.5	5.4	-6.2	-0.4	0.2	17.8	23	-13.9	31+	0	29	-9.4	55	27	4	8	9	0	676	203	3.5	26	19.7	36	10	7	12	12	5.9	
CHEYENNE	1867	803.9	1010.0	6.7	-6.6	0.1	0.3	17.8	13	-12.8	15+	0	31	-11.1	48	31	4	19	9	2	328	203	4.2	31	25.0	N	10	10	10	11	5.5	77
LANDER	1696	823.2	1012.3	5.6	-7.2	-0.8	-0.4	17.2	23	-16.7	31	0	30	-8.9	59	84	54	33	10	0	1321	381	1.3	24	22.4	SW	8	10	9	12	6.2	59
SHERIDAN	1208	873.4	1012.6	7.5	-6.6	0.4	1.0	21.1	23	-14.4	20	0	30	-7.2	61	47	16	20	11	0	635	305	2.6	30	18.8	NW	8	3	13	15	7.1	50

HEATING DEGREE DAYS

(Base 65°F.)

MARCH 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	252	3404	2708
HUNTSVILLE	301	3798	3125
MOBILE	141	2333	1544
MONTGOMERY	216	2950	2185
ALASKA			
ANCHORAGE	1241	7416	9125
ANNETTE	786	4929	5585
BARROW	2711	15893	15905
BARTER ISLAND	2831	16147	15759
BETHEL	1869	10027	10814
BETTLES	2191	12062	13598
BIG DELTA	1729	9671	11793
COLD BAY	1057	7287	7529
FAIRBANKS	1871	10912	12502
GULKANA	1569	9540	11904
HOMER	1171	6890	8271
JUNEAU	893	5817	7306
KING SALMON	1427	8306	9454
KODIAK	1031	6352	6882
KOTZEBUE	2436	12054	12774
MC GRATH	2002	11514	12399
NOME	2173	10559	11421
ST. PAUL ISLAND	1291	8313	8368
TALKEETNA	1509	8323	9801
UNALAKLEET	1952	10200	11402
VALDEZ	1076	7189	8592
YAKUTAT	969	6240	7534
ARIZONA			
FLAGSTAFF	970	5660	5954
PHOENIX	149	1009	1492
TUCSON	287	1556	1671
WINSLOW	711	4855	4247
YUMA	159	862	981
ARKANSAS			
FORT SMITH	352	3996	3187
LITTLE ROCK	265	3343	3194
CALIFORNIA			
BAKERSFIELD	333	1751	2023
BISHOP	682	3522	3793
BLUE CANYON	909	3819	4449
EUREKA U	577	3445	3538
FRESNO	386	2312	2408
LONG BEACH	285	888	1364
LOS ANGELES	272	840	1439
LOS ANGELES U	247	748	1036
MT SHASTA R	834	4669	4780
OAKLAND	350	1995	2332
RED BLUFF	355	1971	2398
SACRAMENTO	424	2283	2476
SANDBERG R	783	3287	3549
SAN DIEGO	224	629	1232
SAN FRANCISCO	432	2348	2421
SAN FRANCISCO U	359	2006	2338
SANTA MARIA	487	1976	2338
STOCKTON	348	2187	2510
COLORADO			
ALAMOSA	1097	7799	7284
COLORADO SPRINGS	858	5518	5505
DENVER	771	4949	5158
GRAND JUNCTION	743	5169	5048
PUEBLO	708	5068	4813
CONNECTICUT			
BRIDGEPORT	710	5098	4714
HARTFORD	684	5788	5581
DELAWARE			
WILMINGTON	546	5007	4431
DIST.OF COLUMBIA			
WASHINGTON DULLES	508	5058	4517
WASHINGTON NATIONAL	389	4215	3874
FLORIDA			
APPALACHICOLA U	121	1951	1331
DAYTONA BEACH	53	1158	880
FORT MYERS	15	616	457
JACKSONVILLE	102	1949	1303
KEY WEST	0	95	64
LAKELAND U	28	935	669
MIAMI	3	271	206
ORLANDO	41	1018	720
PENSACOLA	144	2233	1541
TALLAHASSEE	116	2114	1529
TAMPA	28	1005	709
WEST PALM BEACH	8	404	299
GEORGIA			
ATHENS	248	3399	2824
ATLANTA	300	3719	2924
AUGUSTA	206	2993	2447
COLUMBUS	183	2843	2283
MACON	190	2774	2168
ROME	305	3749	3155
SAVANNAH	152	2397	1989
IDAHO			
BOISE	772	5424	5004
LEWISTON	701	4380	4707
POCATELLO	926	6124	5998
ILLINOIS			
CAIRO U	312	4276	3619
CHICAGO O HARE	616	6386	5726
CHICAGO MIDWAY	622	6338	5440
MOLINE	656	6608	5755
PEORIA	623	6440	5485
ROCKFORD	697	7138	6073
SPRINGFIELD	532	5963	5051
INDIANA			
EVANSVILLE	428	5069	4266
FORT WAYNE	662	6425	5499
INDIANAPOLIS	567	6022	5020
SOUTH BEND	640	6265	5675
IOWA			
BURLINGTON	622	6325	5545
DES MOINES	624	6206	6033
DUBUQUE	722	7254	6456
SIOUX CITY	745	6704	6257
WATERLOO	764	7570	6619
KANSAS			
CONCORDIA	567	5189	5070
DODGE CITY	529	4592	4566
GOODLAND	803	5457	5359
TOPEKA	469	5296	4783
WICHITA	456	4562	4315
KENTUCKY			
COVINGTON	571	5615	4582
LEXINGTON	444	5159	4313
LOUISVILLE	421	4797	4249
LOUISIANA			
ALEXANDRIA	163	2520	2129
BATON ROUGE	141	2187	1637
LAKE CHARLES	134	2037	1472
NEW ORLEANS	117	2005	1436
SHREVEPORT	188	2682	2097
MAINE			
CARIBOU	1002	8637	8139
PORTLAND	888	6915	6342
MARYLAND			
BALTIMORE	469	4683	4279
MASSACHUSETTS			
BLUE HILL OBS R	710	5967	5449
BOSTON	623	5124	4884
WORCESTER	798	6483	5901
MICHIGAN			
ALPENA	892	7466	7166
DETROIT	642	5881	5457
DETROIT METRO	721	6404	5620
FLINT	794	6823	6097
GRAND RAPIDS	765	6780	5932
HOUGHTON LAKE	932	7776	7145
LANSING	761	6924	6021
MARQUETTE U	946	7595	6969
MUSKEGON	807	6738	5919
SAULT STE MARIE	1119	8427	7693
MINNESOTA			
DULUTH	1033	8852	8286
INTERNATIONAL FALLS	1089	9595	9113
MINNEAPOLIS	844	7509	7226
ROCHESTER	808	7959	7242
ST CLOUD	928	8392	7796
MISSISSIPPI			
JACKSON	196	2883	2220
MERIDIAN	231	3090	2302
MISSOURI			
COLUMBIA REGIONAL	548	5623	4636
KANSAS CITY	521	5367	4724
ST JOSEPH	513	5455	4979
ST LOUIS	471	5288	4365
SPRINGFIELD	476	4877	4191
MONTANA			
BILLINGS	896	5739	6189
GLASGOW	967	7432	7808
GREAT FALLS	953	5622	6475
HAVRE	929	6545	7579
HELENA	1005	6258	6926
KALISPELL	935	6588	7178
MILES CITY	888	6651	6893
MISSOULA	950	6518	6700
NEBRASKA			
GRAND ISLAND	729	5780	5740
LINCOLN	659	6059	5611
NORFOLK	733	6309	6241
NORTH PLATTE	858	6231	5918
OMAHA	579	5855	5490
SCOTTSBLUFF	826	5561	5839
VALENTINE	990	6735	6378
NEVADA			
ELKO	927	5769	6242
ELY	1126	6460	6392
LAS VEGAS	374	2084	2465
RENO	828	4923	5003
WINNEMUCCA	855	5155	5524
NEW HAMPSHIRE			
CONCORD	870	7263	6363
MT WASHINGTON OBS	1445	11909	11051
NEW JERSEY			
ATLANTIC CITY	587	5224	4407
ATLANTIC CITY U	590	4698	4063
NEWARK	563	5112	4492
TRENTON U	533	4939	4428
NEW MEXICO			
ALBUQUERQUE	669	4541	3952
CLAYTON	693	4721	4566
ROSWELL	393	3412	3492
NEW YORK			
ALBANY	764	6464	6053
BINGHAMTON	831	6986	6281
BUFFALO	775	6530	5945
NEW YORK U	560	4954	4324
NEW YORK KENNEDY	651	5127	4534
NEW YORK LA GUARDIA	591	4867	4365
ROCHESTER	777	6311	5821
SYRACUSE	767	6349	5805
NORTH CAROLINA			
ASHEVILLE	437	4533	3844
CAPE HATTERAS R	309	2934	2496
CHARLOTTE	306	3741	3039
GREENSBORO	358	4202	3563
RALEIGH	358	4090	3286
WILMINGTON	241	2877	2329
NORTH DAKOTA			
BISMARCK	956	7805	7923
FARGO	1015	8542	8159
WILLISTON	959	7837	8003
OHIO			
AKRON	627	6366	5465
CINCINNATI ABBE OB	510	5348	4412
CLEVELAND	689	6386	5369
COLUMBUS	601	6178	5095
DAYTON U	600	6051	5049
MANSFIELD	708	6836	5143
TOLEDO	718	6722	5622
YOUNGSTOWN	703	6648	5607
OKLAHOMA			
OKLAHOMA CITY	338	3729	3479
TULSA	309	3832	3476
OREGON			
ASTORIA	628	3780	4130
BURNS U	928	5807	5981
EUGENE	615	3787	3876
MEDFORD	675	4293	4142
PENDLETON	639	4480	4527
PORTLAND	596	3802	3968
SALEM	629	4011	3968
SEXTON SUMMIT R	928	4122	4991
PENNSYLVANIA			
ALLENTOWN	604	5539	5163
ERIE	751	6428	5829
HARRISBURG	588	5270	4726
PHILADELPHIA	505	5011	4376
PITTSBURGH	658	6414	5252
PITTSBURGH U	563	5722	4725
SCRANTON	756	6198	5535
WILLIAMSPORT	624	5846	5307
RHODE ISLAND			
BLOCK ISLAND	764	5443	4751
PROVIDENCE	653	5672	5146
SOUTH CAROLINA			
CHARLESTON	186	2588	2072
CHARLESTON U	150	2591	1852
COLUMBIA	211	3013	2503
GRNVLLE-SPRTNBRG	319	3688	2990
SOUTH DAKOTA			
ABERDEEN	968	7628	7597
HURON	958	7491	7134
RAPID CITY	877	6254	6259
SIOUX FALLS	891	7250	6947
TENNESSEE			
BRISTOL	459	4829	3938
CHATTANOOGA	353	3947	3289
KNOXVILLE	319	3978	3258
MEMPHIS	212	3335	3074
NASHVILLE	350	4249	3475
OAK RIDGE	437	4590	3647
TEXAS			
ABILENE	262	3108	2495
AMARILLO	499	4325	3817
AUSTIN	148	2253	1693
BROWNSVILLE	43	939	650
CORPUS CHRISTI	65	1335	930
DALLAS FT WORTH	241	2890	2294
DEL RIO	122	1915	1507
EL PASO	469	3115	2589
GALVESTON	102	1721	1204
HOUSTON INTERCON	166	2220	1411
LUBBOCK	397	3644	3326
MIDLAND	320	2894	2523
PORT ARTHUR	110	1967	1485
SAN ANGELO	227	2697	2166
SAN ANTONIO	144	2126	1539
VICTORIA	82	1747	1212
WACO	175	2594	2002
WICHITA FALLS	281	3318	2779
UTAH			
MILFORD	967	5706	5522
SALT LAKE CITY	838	5087	5184
VERMONT			
BURLINGTON	842	7204	6822
VIRGINIA			
LYNCHBURG	417	4566	3888
NORFOLK	330	3628	3209
RICHMOND	366	4150	3649
ROANOKE	385	4628	3923
WALLOPS ISLAND	540	4396	3793
WASHINGTON			
OLYMPIA	660	4434	4488
QUILLAYUTE	703	4294	4647
SEATTLE	617	3552	3887
SEATTLE-TACOMA	591	3427	4216
SPOKANE	824	5661	5797
STAMPEDE PASS R	1082	6693	7362
WALLA WALLA U	598	4334	4241
YAKIMA	684	5124	5211
WEST VIRGINIA			
BECKLEY	565	5837	4944
CHARLESTON	482	5231	4180
ELKINS	600	6080	5217
HUNTINGTON	475	5006	4205
PARKERSBURG U	508	5368	4369
WISCONSIN			
GREEN BAY	861	7895	7033
LA CROSSE	770	7427	6632
MADISON	772	7498	6770
MILWAUKEE	790	6992	6397
WYOMING			
CASPER	1040	6290	6351
CHEYENNE	1014	6161	6036
LANDER	1063	6526	6674
SHERIDAN	989	6441	6523

COOLING DEGREE DAYS

(Base 65°F.)

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	21	26	45
HUNTSVILLE	8	9	27
MOBILE	74	78	99
MONTGOMERY	27	27	65
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	0	0
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES	0	0	0
BIG DELTA	0	0	0
COLD BAY	0	0	0
FAIRBANKS	0	0	0
GULKANA	0	0	0
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	0	0
MC GRATH	0	0	0
NOME	0	0	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	0	0
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	0	0
PHOENIX	25	61	35
TUCSON	5	5	24
WINSLOW	0	0	0
YUMA	14	50	109
ARKANSAS			
FORT SMITH	0	0	15
LITTLE ROCK	7	7	14
CALIFORNIA			
BAKERSFIELD	2	12	6
BISHOP	0	0	0
BLUE CANYON	0	0	0
EUREKA U	0	0	0
FRESNO	0	0	0
LONG BEACH	0	10	7
LOS ANGELES	0	16	12
LOS ANGELES U	3	49	34
MT SHASTA R	0	0	0
OAKLAND	0	0	0
RED BLUFF	0	3	0
SACRAMENTO	0	0	0
SANDBERG R	0	0	0
SAN DIEGO	0	14	10
SAN FRANCISCO	0	0	0
SAN FRANCISCO U	0	0	0
SANTA MARIA	0	0	0
STOCKTON	0	0	0
COLORADO			
ALAMOSA	0	0	0
COLORADO SPRINGS	0	0	0
DENVER	0	0	0
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	0	0	0
HARTFORD	4	4	0
DELAWARE			
WILMINGTON	5	5	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	13	13	0
WASHINGTON NATIONAL	10	10	0
FLORIDA			
APPALACHICOLA U	63	63	92
DAYTONA BEACH	181	197	182
FORT MYERS	205	237	353
JACKSONVILLE	107	108	121
KEY WEST	360	573	706
LAKELAND U	222	238	270
MIAMI	318	465	478
ORLANDO	192	206	260
PENSACOLA	75	77	117
TALLAHASSEE	87	87	102
TAMPA	218	229	268
WEST PALM BEACH	287	374	394
GEORGIA			
ATHENS	6	6	14
ATLANTA	3	3	12
AUGUSTA	33	33	37
COLUMBUS	38	38	47
MACON	34	34	59
ROME	12	12	13
SAVANNAH	71	72	72
HAWAII			
HILO	264	804	553
HONOLULU	355	936	678
KAHULUI	303	763	618
LIHUE	288	767	583
IDAHO			
BOISE	0	0	0
LEWISTON	0	0	0
POCATELLO	0	0	0
ILLINOIS			
CAIRO U	8	8	16
CHICAGO O HARE	0	0	0
CHICAGO MIDWAY	0	0	0
MOLINE	0	0	0
PEORIA	0	0	0
ROCKFORD	0	0	0
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	9	9	11
FORT WAYNE	0	0	0
INDIANAPOLIS	3	3	0
SOUTH BEND	0	0	0
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	0
DUBUQUE	0	0	0
SIOUX CITY	0	0	0
WATERLOO	0	0	0
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	2	2	0
GOODLAND	0	0	0
TOPEKA	0	0	8
WICHITA	3	3	8
KENTUCKY			
COVINGTON	7	7	0
LEXINGTON	11	11	10
LOUISVILLE	14	14	10
LOUISIANA			
ALEXANDRIA	58	63	51
BATON ROUGE	77	81	85
LAKE CHARLES	49	53	104
NEW ORLEANS	123	133	118
SHREVEPORT	28	35	47
MAINE			
CARIBOU	0	0	0
PORTLAND	0	0	0
MARYLAND			
BALTIMORE	10	10	0
MASSACHUSETTS			
BLUE HILL OBS R	4	4	0
BOSTON	1	1	0
WORCESTER	2	2	0
MICHIGAN			
ALPENA	0	0	0
DETROIT	1	1	0
DETROIT METRO	0	0	0
FLINT	0	0	0
GRAND RAPIDS	0	0	0
HOUGHTON LAKE	0	0	0
LANSING	0	0	0
MARQUETTE U	0	0	0
MUSKEGON	0	0	0
SAULT STE MARIE	0	0	0
MINNESOTA			
DULUTH	0	0	0
INTERNATIONAL FALLS	0	0	0
MINNEAPOLIS	0	0	0
ROCHESTER	0	0	0
ST CLOUD	0	0	0
MISSISSIPPI			
JACKSON	39	42	68
MERIDIAN	23	23	68
MISSOURI			
COLUMBIA REGIONAL	0	0	8
KANSAS CITY	0	0	7
ST JOSEPH	0	0	0
ST LOUIS	2	2	9
SPRINGFIELD	0	0	9
MONTANA			
BILLINGS	0	0	0
GLASGOW	0	0	0
GREAT FALLS	0	0	0
HAVRE	0	0	0
HELENA	0	0	0
KALISPELL	0	0	0
MILES CITY	0	0	0
MISSOULA	0	0	0
NEBRASKA			
GRAND ISLAND	0	0	0
LINCOLN	0	0	0
NORFOLK	0	0	0
NORTH PLATTE	0	0	0
OMAHA	0	0	0
SCOTTSBLUFF	0	0	0
VALENTINE	0	0	0
NEVADA			
ELKO	0	[illegible]	0
ELY	0	0	0
LAS VEGAS	0	0	14
RENO	0	0	0
WINNEMUCCA	0	0	0
NEW HAMPSHIRE			
CONCORD	0	0	0
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	2	2	0
ATLANTIC CITY U	0	0	0
NEWARK	6	6	0
TRENTON U	10	10	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	0	0	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	0	0	0
BINGHAMTON	3	3	0
BUFFALO	0	0	0
NEW YORK U	3	3	0
NEW YORK KENNEDY	0	0	0
NEW YORK LA GUARDIA	0	0	0
ROCHESTER	3	3	0
SYRACUSE	1	1	0
NORTH CAROLINA			
ASHEVILLE	0	0	0
CAPE HATTERAS R	10	11	12
CHARLOTTE	0	2	15
GREENSBORO	1	3	11
RALEIGH	4	6	12
WILMINGTON	28	32	31
NORTH DAKOTA			
BISMARCK	0	0	0
FARGO	0	0	0
WILLISTON	0	0	0
OHIO			
AKRON	5	5	0
CINCINNATI ABBE OB	10	10	7
CLEVELAND	4	4	0
COLUMBUS	8	8	0
DAYTON U	4	4	0
MANSFIELD	0	0	0
TOLEDO	0	0	0
YOUNGSTOWN	4	4	0
OKLAHOMA			
OKLAHOMA CITY	[illegible]	9	11
TULSA	6	7	10
OREGON			
ASTORIA	0	0	0
BURNS U	0	0	0
EUGENE	0	0	0
MEDFORD	0	0	0
PENDLETON	0	0	0
PORTLAND	0	0	0
SALEM	0	0	0
SEXTON SUMMIT R	0	0	0
PACIFIC AREA			
GUAM TAGUAC R	401	1105	1119
JOHNSTON	373	1123	1048
KOROR R	527	1503	1441
KWAJALEIN	537	1535	1479
MAJURO	518	1460	1446
PAGO PAGO	516	1538	1385
PONAPE R	530	1532	1414
TRUK MOEN ISLAND	516	1502	1452
WAKE	366	1066	1102
YAP R	516	1430	1407
PENNSYLVANIA			
ALLENTOWN	4	4	0
ERIE	2	2	0
HARRISBURG	4	4	0
PHILADELPHIA	10	10	0
PITTSBURGH	3	3	0
SCRANTON	2	2	0
WILLIAMSPORT	0	0	0
RHODE ISLAND			
BLOCK ISLAND	0	0	0
PROVIDENCE	0	0	0
SOUTH CAROLINA			
CHARLESTON	54	55	61
CHARLESTON U	52	53	66
COLUMBIA	53	56	30
GRNVLLE-SPRTNBRG	1	1	13
SOUTH DAKOTA			
ABERDEEN	0	0	0
HURON	0	0	0
RAPID CITY	0	0	0
SIOUX FALLS	0	0	[illegible]
TENNESSEE			
BRISTOL	1	1	9
CHATTANOOGA	9	9	18
KNOXVILLE	14	19	24
MEMPHIS	23	23	23
NASHVILLE	11	11	19
OAK RIDGE	3	3	12
TEXAS			
ABILENE	13	17	29
AMARILLO	0	0	0
AUSTIN	38	45	76
BROWNSVILLE	174	233	358
CORPUS CHRISTI	104	126	199
DALLAS FT WORTH	7	7	25
DEL RIO	63	70	118
EL PASO	0	0	6
GALVESTON	21	25	110
HOUSTON INTERCON	44	49	97
LUBBOCK	0	0	9
MIDLAND	9	9	17
PORT ARTHUR	62	66	93
SAN ANGELO	14	20	42
SAN ANTONIO	52	55	88
VICTORIA	74	86	120
WACO	20	27	44
WICHITA FALLS	2	4	22
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	0	0	0
VERMONT			
BURLINGTON	0	0	0
VIRGINIA			
LYNCHBURG	5	5	0
NORFOLK	16	20	8
RICHMOND	22	22	8
ROANOKE	7	7	0
WALLOPS ISLAND	0	0	0
WASHINGTON			
OLYMPIA	0	0	0
QUILLAYUTE	0	0	0
SEATTLE	0	0	0
SEATTLE-TACOMA	0	0	0
SPOKANE	0	[illegible]	0
STAMPEDE PASS R	0	0	0
WALLA WALLA U	0	0	10
YAKIMA	0	0	0
WEST INDIES			
SAN JUAN P.R.	419	1161	960
WEST VIRGINIA			
BECKLEY	1	1	0
CHARLESTON	18	18	7
ELKINS	1	1	0
HUNTINGTON	25	25	7
PARKERSBURG U	12	12	0
WISCONSIN			
GREEN BAY	0	0	0
LA CROSSE	0	0	0
MADISON	0	0	0
MILWAUKEE	0	0	0
WYOMING			
CASPER	0	0	0
CHEYENNE	0	0	0
LANDER	0	0	0
SHERIDAN	0	0	0

STORM SUMMARY

MARCH 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ϕ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	CROPS
Alabama	3	1		5	5							3														1		2	
Alaska												5																	
Arizona	1	1																											
Arkansas	4	2		1	5						2	5														1		6	
California	1	1		4	6							[illegible]																	
Colorado	3	1			[illegible]						1	7	7					9											
Connecticut												5																	
Delaware	1	1			4						1	4																3	
Florida *																													
Georgia	2	1		4	5			[illegible]	6		1	5	3			4													
Hawaii												4															3	4	
Idaho												5																	
Illinois								[illegible]	[illegible]		19	6																2	2
Indiana	1	1			2																								
Iowa	1	1			4						1	5				4													
Kansas	1	1			5							6	6					1	2	6	6								
Kentucky											8	5																	
Louisiana	11	3		5	6						5	6	[illegible]			5													
Maine												4								6									
Maryland & DC												5																3	
Massachusetts												5																5	
Michigan	2	2		3	5							5																	
Minnesota																		3	14	6									
Mississippi	7	3		4	5				[illegible]		10	6	2			[illegible]	[illegible]											2	2
Missouri	1	1		2	4							5																6	
Montana *																													
Nebraska																		7		7	5								
Nevada											15	5	5																
New Hampshire												5								6									
New Jersey																											3	2	2
New Mexico												7	6							7	6								
New York												5	°C															7	°C
North Carolina	7	1		6	6						2	5	3															5	
North Dakota *																													
Ohio	1	1			4					1	3	5																	
Oklahoma	11	3		6	5			4	2			5	4															5	
Oregon *																													
Pacific																										1	2	2	2
Pennsylvania	1	1			5			[illegible]	[illegible]	1	3	5	[illegible]			4	2											5	
Puerto Rico *																													
Rhode Island												4																	
South Carolina	1	1			4							4	4																
South Dakota																		6		6									
Tennessee	1	1			5						1	6														4	1		
Texas	3	3			5			[illegible]	[illegible]		6	6	7													5	1	7	6
Utah												5																	
Vermont																												6	4
Virginia	1	1			4					1	3	5																	
Virgin Islands *																													
Washington *																													
West Virginia										2		5																	
Wisconsin																				[illegible]									
Wyoming																				5									

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MARCH 1977

Herbert J. Thompson - Office of Hydrology

Severe flooding occurred in several areas of the Northeast during March with losses exceeding $13 million. The hardest hit areas include Vermont, southern Maine, and the Upper Susquehanna River Basin in New York. The flooding resulted from a combination of heavy rainfall and the melting of an excessive snow cover.

Significant flooding also occurred in northern Georgia and Alabama, in the headwaters of the Trinity River in Texas where damages exceeded $2 million, and in northwest Arkansas and southeast Missouri. Minor to moderate flooding was reported on several streams in the Southeast; the Arkansas and Red River Basins in the Southwest; the lower Ohio River Basin; and the Gulf Coast Drainage in Mississippi, Louisiana, and Texas.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
Snowmelt began in the Muskegon and White River Basins in Michigan on the 8th and progressed under nearly ideal conditions dissipating nearly 4 inches of water content without flooding although these streams reached near bank-full stages. An ice jam on the Raisin River near the mouth caused minor flooding at Monroe City, MI. In Ohio from 2 to 3 feet of flooding occurred along the Tiffin and St. Joseph Rivers affecting primarily agricultural land. Minor flooding occurred in the Maumee Basin in Indiana.	0	N.A.
In western New York State the absence of heavy rain aided in diminishing the excessive snow cover without major flooding although widespread minor flooding occurred. Buffalo Creek crested 4 feet over flood stage at Gardenville, NY, however, most damage was to roads in the Towanda Creek Drainage from which no stage reports are received.	0	300
In eastern New York record or near record stages were reported on several streams by the U.S. Geological Survey. The crest of 11.98 feet on the Black River at Watertown, NY, was the hightest in more than 100 years. No stage reports are received from this rather sparsely inhabited area by the NWS.	0	N.A.
Melting of an excessively heavy snow cover began on the 8th and combined with heavy rains the 12th-14th, caused widespread flooding in Vermont. Otter Creek crested more than 5.5 feet over flood stage at Center Rutland, VT. The Vermont Department of Civil Defense reported road damage at $325,000 and other damage estimated at $175,000.	0	500
ATLANTIC SLOPE DRAINAGE		
Widespread flooding occurred over much of the Northeast during March as warmer temperatures and a series of storms induced melting of a heavy snow cover. The hardest hit areas were Vermont, eastern New York, southern New England and the headwaters of the Delaware and Susquehanna Rivers. From 1 to 2 inches of rain fell over much of the area on the 4th. On the 13th-15th from 1.5 to 4 inches fell over the area. This storm produced the highest stages and most of the flood losses. On the 22d rainfall of 1.5 to 3.7 inches occurred over the southern portion of the area with		

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
snow of up to 30 inches over the northern portion. Moderate rain fell on the 28th followed by abnormally warm temperature which reached the 80's and melted much of the remaining snow cover. Only minor flooding resulted from the last storm.		
In southern New Hampshire and Maine the period of record-breaking warm temperature caused melting of the snowpack which contained water contents of 3 to 9 inches in the southern two-thirds of New Hampshire and 7 to 10 inches in the southern half of Maine. This melting was followed by rains of 2 to 4 inches the 13th-15th which caused widespread small stream and flash flooding in both states. One of the major problems was that the frozen ditches and culverts were unable to control the excessive runoff. Many roads were washed out and basements flooded.		
Although the Androscoggin River in Maine stayed within its banks, a tributary, the Little Androscoggin, overflowed, flooding low-lying sections of Auburn, Mechanic Falls, and Minot. This caused an estimated damage of between $400,000 and $700,000. The Androscoggin River upriver from Auburn, at Gulf Island Dam, crested at a discharge of 33,000 cubic feet per second near midnight of the 15th-16th. Flood discharge is 35,000 c.f.s. The Kennebec River at Augusta was about two feet above the 13 foot flood stage but no damage was reported. Damage in Maine was estimated at $3,341,000 public and $851,000 private by the Bureau of Civil Emergency Preparedness.	0	4,192
Ice jams on the Baker River, which feeds the Pemigewasset River, broke, causing a huge swell of water to push against the jam in the larger river. The Pemigewasset River at Plymouth, NH, then rose rapidly during the early morning of the 14th to 19.4 feet at 11:30 a.m. This is over 8 feet above flood stage. Parts of Plymouth and Holderness were flooded which caused a total of $36,000 damage. Forty families were evacuated. The Connecticut River at North Stratford, NH, crested within 0.6 foot of the 13 foot flood stage about 7 a.m. on the 14th. It crested within 1.5 feet of flood stage at North Walpole, NH, the evening of the 14th. The Merrimack River at Amoskeag Dam in Manchester, NH, crested at a discharge of 28,500 c.f.s. at noon on the 15th. Flood discharge is 30,000 c.f.s. Some flooding was reported further down river. Total damage in New Hampshire was estimated at $614,000 by the Civil Defense Agency of which $367,000 was to public works and highways.	0	614
In Vermont most of the damage was caused by small stream flooding. The only reporting station to exceed flood stage was the Connecticut River at White River Junction. Losses reported by the Vermont Department of Civil Defense include: $1,266,000 to roads; $185,000 stream damage; $53,000 to railroads; $227,000 to the Windsor sewage treatment plant, $100,000 agricultural losses; $452,000 to private property, and $250,000 to the Goodyear Tire Plant in Windsor. An 8-mile long ice jam on the Connecticut River caused the flooding at Windsor.	0	2,211
Widspread flooding also occurred in southern New England but was generally of a minor nature except in Berkshire	1	1,518

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Con'd		
County, MA, where 3 inches of rain and warm temperatures caused melting of the heavy snow cover in the Berkshire Mountains. Most of the damage was in the upper Housatonic River Basin. A crest nearly 4 feet over flood stage was reported at Gaylordsville, CT. Pittsfield, MA, reported losses of $234,000 and Great Barrington, MA, losses of $247,000. Total losses in Bershire County were estimated by county officials at $835,000 to private property and $683,000 to municipal property. The lower Connecticut River crested 7 feet over flood stage at Hartford, CT, flooding large areas of agricultural land with only minor damage at this season. One fatality occurred when a car was swept off a bridge over the Pomperaug River.		
In the Hudson River Basin the worst flooding since the winter of 1948-49 was reported in the Albany, NY, area where the Hudson crested 3.5 feet over flood stage and 100 homes were evacuated. The Mohawk River reached a new record crest stage of 19.17 feet at Little Falls, NY, where flood stage is 15 feet. The previous record there was 18.3 feet in 1964. The Hoosic River crested 5 feet over flood stage at Eagle Bridge, NY, and flooded the water treatment plant at Hoosic Falls. At Troy, NY, the Hudson River reached 6.5 feet over flood stage on the lower gage and the current undermined the piers of the Green Island Highway bridge which subsequently collapsed. About 50 families were evacuated at Whitehall, NY, and 40 families were evacuated in Waterford, NY. In Menands, NY 200 apartment units were evacuated. A section of the D & H railroad bridge was washed out at Clemons, NY, and six highway bridges damaged at Fort Plains, NY. Minor flooding occurred along the Schroon River and Battenkill, Schoharie, Rondout, and Wappingers Creeks.	0	N.A.
In New Jersey precipitation totals for March ranged up to over 8 inches with significant storms on the 4th, 13th, 18th, and 22d with the latter storm causing flooding. The Pompton River crested more than 3 feet over flood stage at Pompton Plains and the Millstone and Raritan Rivers 4.5 feet over flood stage at Blackwell's Mills and Manville, respectively. From 1 to 2 feet of flooding occurred along the Wanaque, Ramapo, Rockaway, Saddle, and Passaic Rivers.	0	N.A.
Severe damage occurred in Sullivan County, NY, (headwaters of the Delaware River) the 13th-15th with roads and bridges damaged and cellars flooded. Losses to private property were $262,000 and to public property $221,000. The Beaver Kill and the East Branch of the Delaware crested about 5 feet over flood stage at Cooks Falls, and Fisher Eddy, respectively. Minor flooding occurred on the West Branch of the Delaware and in the lower part of the Delaware Basin on the Assunpink River and Neshaminy and Perkiomen Creeks.	0	483
Record and near-record flooding resulted from the storm of the 13th-15th on the upper Susquehanna River. At Unadilla, NY, the crest stage of 14.72 feet was the highest in 40 years of record. The previous record stage of 14.25 feet occurred in 1960. At Bainbridge, NY, the crest of 22.2 feet was only 0.9 foot below the record stage of 23.10 feet which occurred in 1914. Flood stage at Bainbridge is 13 feet. Indications are that flooding at Oneonta, NY, was second only to that of 1960. Stage reports are no longer received	0	3,752

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
from Oneonta. Flooding on the main Susquehanna extended down to Vestal, NY. From 1 to 3 feet of flooding occurred on headwater tributaries including the Unadilla, Tioughnioga, Chenango, and Chemung Rivers. Losses estimated by the Corps of Engineers were: Chenango Basin, $660,000; Unadilla Basin $179,000; Tioughnioga Basin, $15,000; Oneonta area, $1 million; above Oneonta, $140,000; Susquehanna River above Great Ben, $1,582,000; and Susquehanna River from Binghamton, NY, to Great Bend, $176,000.		
In the southeast widespread moderate to heavy rainfall occurred at intervals throughout the month. Amounts of 1.5 to 2.5 inches fell from the 4th to 7th, up to 5 inches the 12th-13th, from 2 to 4.5 inches the 21st-22d, and from 2 to 6 inches the 29th-30th. Highest amounts were generally in the mountainous headwater areas. Each of these storms caused flooding on some streams and a few streams were over flood stage most of the month with flooding continuing into April.		
In North Carolina, the only significant damage occurred on the South Fork Catawba River, which crested 3 feet over flood stage at McAdenville on the 30th. Several periods of minor flooding occurred on the Cape Fear River with greatest flooding of about 4 feet on the 15th-16th. The Rocky River crested 15 feet over flood stage at Norwood. Up to about 3 feet of flooding occurred on the Neuse and Lumber Rivers. Flooding on the Lumber River continued into April.	0	N.A.
In South Carolina some losses were reported along the Broad, Pee Dee, and Congaree Rivers. The Broad River crested more than 12 feet over flood stage on April 1 at Blair with losses to livestock of about $5,000. Savings due to warnings were estimated at $60,000. The Pee Dee River crested about 6 feet over flood stage on April 1 at Cheraw with losses of $5,000. Savings due to warnings were estimated at $75,000. The Congaree River crested nearly 6 feet over flood stage near St. Matthews on the 23d with losses of $10,000. Savings due to warnings were estimated at $200,000. Minor Flooding was reported on the Little Pee Dee, Saluda, North Fork Edisto, and Edisto Rivers, and on Stevens Creek.	0	20
Serious flash flooding was reported in Greenville, Ononee, and Pickens, SC, on the 29th.	0	N.A.
In Georgia, flooding was minor and of short duration on the Ocmulgee, Oconee, Satilla and upper portions of the Savannah and Ogeechee Rivers. However, 2 to 3 feet of swampland flooding continued into April on the Altamaha and lower portions of the Savannah and Ogeechee Rivers.	0	N.A.
EAST GULF OF MEXICO DRAINAGE		
Heavy rainfall occurred over northern Florida the first half of March with totals in excess of 6 inches in some areas. From 3 to 4 inches were reported the 4th-7th over many areas. The Ochlockonee River crested 2 feet over flood stage at Havana. Backwater from the Suwanee River caused flooding along the lower Santa Fe River and affected the Three Rivers Estates development on its Ichtucknee River tributary. Lowland flooding occurred along the Appalachicola River with a	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Cont'd		
crest 4.5 feet over flood stage at Blountstown.		
Two periods of heavy rainfall occurred during the first half of March over Georgia and resulted in high streamflows with minor flooding on the Flint River. Rains of over 6 inches fell over northern Georgia the 29th-30th resulting in major flooding. The Chattahoochee River crested 6.5 feet over flood stage at Atlanta with damages of $117.000 and the Etowah River also crested 6.5 feet at Canton with losses of $121,000. The most serious flooding occurred on the Oostanoula River early in April. Numerous roads were flooded, many county road bridges were washed out, and 16,600 acres of farmland were flooded. Evacuations of homes were necessary in Polk, Cobb, Fulton, and Gilmer Counties.	0	238
Rainfall for the month ranged up to 200 percent of normal over Alabama with the heaviest amounts in the Cahaba River Basin where totals of 9 to 17 inches were reported. Rainfall was well spaced throughout the month resulting in more than one period of flooding on some streams. The Cahaba River was over flood stage at Centerville on three occasions with the highest crest of 30.6 feet on the 30th. Flood stage there is 23 feet. Widespread flooding occurred along the Tombigbee River from Aberdeen, MS, downstream with crests 6 to 12 feet over flood stage. From 3 to 4 feet of flooding occurred on the lower Alabama River and 5 to 7 feet of flooding on the lower Black Warrior River. A total of 109,200 acres were inundated in Alabama including 30,900 acres of agricultural land. Flash flooding was reported in Athens, AL, and the Hamilton-Haleyville area on the 3d. The U.S. Geological Survey reported a record crest on the Tallapoosa River near Heflin, AL, on the 31st. The peak stage of 31.34 feet was 5 feet over the previous maximum in 25 years of record.	0	610
In Mississippi 3 to 5 inch rains on the 3d and 4th caused flooding in the Pascagoula and Pearl River Basins. Flash/urban flooding occurred in Jackson and in Laurel where Tallahala Creek crested 5 feet over flood stage. The Chickasawhay River crested 3 feet over flood stage at Enterprise. Lowland flooding along the Pearl River ranged from 3 feet at Columbia to 14 feet at Jackson where levees protect the city at that stage. From 4 to 5 feet of flooding occurred along the lower Pearl in Louisiana, lasting the whole month at Bogalusa.	0	N.A.
UPPER MISSISSIPPI BASIN		
In the northern portion of the Basin (Minnesota, Wisconsin, Iowa, and northern Illinois) warm temperatures and generally above normal precipitation occurred during March. Monthly totals ranged up to more than 200 percent of normal. Most of the snow cover melted. The snowpack in the headwaters of the Mississippi had a water content of up to 3.3 inches but no significant runoff developed due to the dry soil conditions. The basin had suffered from up to nine months of below normal precipitation, and while surface moisture was brought back to near normal, sub-surface moisture remained critically low with streamflow generally well below	0	15

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
UPPER MISSISSIPPI BASIN-Cont'd		
normals for the season. The only flooding resulted from ice jams on the Redwood and Yellow Medicine Rivers in the Minnesota River Basin. Unworked farmland was flooded, the only damage being to a drainage system.		
In the southern portion of the Basin monthly precipitation totals ranged up to 300 percent of normal. Heaviest amounts occurred 27th-28th with many reports of 3.5 to 4.5 inches over southern Missouri and Illinois and over 12 inches at Lake Wappapello in southeastern Missouri. Widespread small stream flooding resulted and many reporting stations exceeded flood stage. From 6 to 8 feet of flooding occurred along the lower Meramec River. The Big River crested 6 feet over flood stage at Byrnesville, MO, and the Big Muddy River crested nearly 17 feet over flood stage at Murphysboro on April 1. From 6 to 8 inches of rain fell at Marian, IL, the 27th-28th. The Bourbeuse River crested about 3 feet over flood stage at Union, MO. Minor flooding was reported on the Kankakee River in northern Indiana. In East St. Louis, IL, 2,000 acres were inundated and 75 mobile homes were evacuated from the Chevy Chase Court. In the Cape Girardeau, MO, area, 52 patients and staff were evacuated from a nursing home and 78 persons from a housing project.	0	N.A.
MISSOURI RIVER BASIN		
Heavy precipitation over much of the Basin during March eased the critical drought conditions; however, there was generally no significant runoff because of the dry soil conditions. Only minor flooding occurred. The James River, which had flow for the first time in several months, crested a foot over flood stage at Huron, SD, and the Big Sioux River a foot over flood stage at Brookings, SD. This flooding resulted from snowmelt and rainfall. Minor flooding from ice jams was reported on Bear and Turkey Creeks in the South Platte Drainage in Colorado.	0	N.A.
OHIO RIVER BASIN		
There were three significant rain-producing storms over the Basin during March each of which caused some generally minor flooding. The lower portion of the basin received the heavier amounts. Indianapolis, IN, had a total for the month of 9.2 inches. Portions of Tennessee received from 2 to 4 inches from each of the storms which occurred the 3d-4th, 12th-13th, and 28th-30th. Amounts of 4 to 5 inches were reported for the storm of the 12th-13th in the mountainous headwater areas of North Carolina where about 4 feet of flooding occurred on the upper French Broad River. In Tennessee 4.5 feet of flooding occurred on South Chickamauga Creek near Chattanooga, a crest 3.5 feet over flood stage was reported on the Duck River at Centerville, as much as 5 feet of flooding occurred along the Harpeth River, 2 to 3 feet of flooding on the Red and Elk Rivers and minor flooding on the Sequatchie River.	0	N.A.
Considerable lowland flooding occurred in the Wabash Basin. The Little Wabash crested 10.5 feet over flood stage at	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
Carmi, IL, 4.5 to 5.5 feet of flooding occurred on the Embarrass and Skillet Fork Rivers, and up to 3 feet of flooding on the lower White and Middle Wabash Rivers. Minor flooding occurred on a number of streams in Kentucky including the Licking, Red, Rolling Fork, Rough, and Green Rivers. A strong rise occurred on the upper Ohio River and several of its tributaries but no reporting stations exceeded flood stage. From 1 to over 3 feet of flooding occurred at several points on the Lower Ohio.		
WHITE RIVER BASIN		
Heavy rains on the 27th-28th caused extensive flooding in the Basin. Amounts of up to 7 inches fell in Arkansas and over 12 inches was reported at Lake Wappapello, MO, in the headwaters of the Black River. A record peak stage of 28.7 feet was reported at Imboden, AR, on the Spring River. The previous record stage of 28.42 feet occurred January 24, 1949. Flood stage at Imboden is 16 feet. Crests of up to 12 feet over flood stage occurred on the lower Black River and up to 8 feet over flood stage on the White River. Stages rose rapidly at some points. The Buffalo River rose 29 feet in 24 hours. Flooding on both the Black and White Rivers continued into April. Flooding began early in March on the Cache River at Patterson, AR, and continued into April reaching nearly 2 feet over flood stage on the 13th. This flooding was primarily on agricultural land which had not yet been planted. However, losses of $2,500,000 were reported in the Poplar Bluff area in Missouri with 20 small bridges washed out. One flood-related death was reported from a boating accident.	1	N.A.
ARKANSAS RIVER BASIN		
The South Fork of the Little Red River flooded the town of Clinton, AR, as a result of 5-6 inches of rain with damages of $130,000. No stage reports are received from this stream. Rains averaging less than 4 inches on the 27th caused minor flooding along the Illinois River above the Tenkiller Lake Project which prevented flooding downstream. Along the Poteau River rainfall amounts from the storm of the 26th-27th averaged over 5 inches and caused moderate flooding at Poteau, OK, where the crest was about 2 feet over flood stage.	0	130
RED RIVER BASIN		
There were two periods of flooding during March in portions of the Red Basin. The more extensive flooding resulted from the storm of the 26th-28th which deposited rains of up to nearly 10 inches over the Basin. The most serious flooding was along the Blue River which crested nearly 13 feet over flood stage at Blue, OK, after receiving a Basin average of 6 inches of rain - most of it in 6 hours. Flash flooding occurred along Mineral Bayou (a Blue River tributary) with 20 people evacuated in Durant, OK, on the 17th. Three mobile homes and a house were flooded. Many county roads were overtopped by small streams in the area. The Sulphur River crested 8.5 feet over flood stage at Naples, TX, on	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED RIVER BASIN-Cont'd		
the 31st from rainfall of 4 inches over the basin. From 4 to 6 feet of flooding occurred along Clear Boggy, Muddy Boggy, and Glover Creeks, and on the Saline and Ouachita Rivers. The Red River crested more than 3 feet over flood stage near DeKalb, TX, on the 29th from about 5 inches of rain over that reach of the river.		
LOWER MISSISSIPPI BASIN		
The storm of the 27th-28th in Southeast Missouri and Northeast Arkansas also caused flooding along the St. Francis River with a crest more than 5 feet over flood stage at St. Francis, AR. Rains of up to 7 inches were reported over the Basin. Two families were evacuated at Wilhelmina, MO, and an 8 foot dam was washed out near Fredricktown, MO. Flooding continued into April.	0	N.A.
Rainfall of about 3 inches the 4th-5th caused extensive lowland flooding along the Big Black River in Mississippi with crests 10 feet over flood stage.	0	N.A.
WEST GULF OF MEXICO DRAINAGE		
Two significant storms occurred during March which produced flooding over the northeastern portion of the Basin. The storm of the 3d-4th yielded rainfall of up to 7 inches with the heaviest amounts over central to northeast Louisiana. Rainfall from the storm of the 26th-28th also ranged up to 7 inches with maximum amounts centered over the Dallas-Ft. Worth area. Most streams had two periods of flooding over at least part of their length with the latter period of flooding extending into April on the larger streams.		
Moderate flooding was reported on the upper Calcasieu River from the 3d-4th storm with a crest more than 5 feet over flood stage at Hineston, LA. Flooding extended downstream to Oakdale, LA. The second storm caused only minor flooding on the upper Calcasieu River. In the Sabine River Basin rainfall for the month averaged 6 inches with relatively minor flooding. Crests ranged up to 4 feet over flood stage from Emory to Mineola, TX. Lowland flooding continued from February in portions of the Neches River Basin with some additional flooding from the storm of the 3d-4th which caused a crest 4.5 feet over flood stage near Neches, TX. Locally heavy rains the 10th-11th caused similar flooding near Neches the 12th-16th. Minor flooding occurred along the Navasota River.	0	N.A.
Major damage resulted from the storm of the 26th-27th along the Upper Trinity River. The crest of 37.83 feet at Dallas (flood stage 30 feet) was the highest in 25 years. The hardest hit area was the suburb of Grand Prairie where losses were estimated at $288,000 and two deaths occurred. About 40 homes were evacuated in the area of Grand Prairie flooded by Rock Creek. Two trailer parks along Bear Creek were also evacuated, and 54 homes were affected along Johnson's Creek near Arlington, TX. Four other deaths were reported two of which resulted from carbon-monoxide poisoning in a car stalled by flood waters. Flooding extended downstream to below Trinidad, Tx, where a crest nearly 12 feet over flood stage occurred.	6	2,000

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages dates From—	To—	Crest Stage	Date
	Ft.			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Erie					
[illegible]					
[illegible], MI	8.5	[illegible]	8	I 8.91	5-7
St. Marys:					
[illegible], IN	[illegible]	[illegible]	6	17.0	5
St. Joseph:					
Montpelier, OH	[illegible]	[illegible]	10	E12.87	[illegible]
Tiffin:					
Stryker, OH	11	5	11	E13.37	7
Maumee:					
Ft. Wayne, IN	15	[illegible]	[illegible]	16.2	6
Lake Ontario					
Buffalo Creek:					
Gardenville, NY	[illegible]	Feb 24 8 13	[illegible] [illegible] 13	A10.95 E 9.5 7.07	5 [illegible] 13
Ellicott Creek:					
Williamsville, NY	[illegible]	11 13	12 14	6.48 6.40	11 13
Oatka:					
Garbutt, NY	5	11 13	11 15	5.2 6.0	11 14
Black:					
Churchville, NY	5	10 14	12 15	5.26 5.2	11 15
Otter Creek:					
Center Rutland, VT	[illegible]	14 30	15 Apr 1	[illegible] 10.24	14 31
ATLANTIC SLOPE DRAINAGE					
Kennebec:					
Augusta, ME	13	[illegible]	[illegible]	14.9	[illegible]
Pemigewasset:					
Plymouth, NH	11	14	16	19.4	14
Nashua:					
East Pepperell, MA	8	14	16	9.8	15
Merrimack:					
Lowell, MA	52	15	16	53.4	15
Lawrence, MA	20	15	16	22.3	15
Charles:					
Charles River Village, MA	[illegible]	16 24	17 29	# 4.0 # 4.6	16 26
Connecticut:					
White River Junction, VT	18	14	15	18.80	14
Montague City, MA	28	14 31	18 Apr 2	33.1 29.7	14 Apr 1
Holyoke, MA	9	15	16	# 9.89	15
Hartford, CT	16	14 31	20 1	23.04 20.8	16 Apr 2
Bodkin Rock, CT	8	14	21	13.7	16
Housatonic:					
Great Barrington, MA	[illegible]	14	16	10.1	[illegible]
Gaylordsville, CT	[illegible]	14 30	18 1	11.7 9.0	15 31
Stevenson, CT	12	15	17	[illegible]	16
[illegible]					
[illegible], NY	[illegible]	[illegible]	19	7.92	16
Batten Kill:					
Battenville, NY	11	14	[illegible]	14.8	14
Hoosic:					
Eagle Bridge, NY	[illegible]	13	[illegible]	[illegible]	[illegible]
ATLANTIC SLOPE DRAINAGE (cont'd)					
Schoharie Creek:					
Prattsville, NY	13	[illegible]	[illegible]	[illegible]	[illegible]
Gilboa Dam Spillway, NY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Middleburgh, NY	[illegible]	14	[illegible]	[illegible]	[illegible]
Burtonsville, NY	6	13 30	[illegible] 31	7.89 6.83	14 [illegible]
Mohawk:					
Little Falls, NY	15	13 [illegible]	15 [illegible]	19.17 18.80	[illegible] 31
Tribes Hill, NY	24	14	14	24.3	14
Schenectady, NY	[illegible]	13	[illegible]	226.5	[illegible]
Cohoes, NY	20	14	[illegible]	21.77	14
[illegible] Creek:					
[illegible], NY	[illegible]	14	[illegible]	[illegible]	[illegible]
Hudson:					
Troy (Upper), NY	24	14	15	26.3	14
Troy (Lower), NY	15	14	15	21.5	15
Albany, NY	11	14	[illegible]	[illegible]	[illegible]
Wappingers Creek:					
Clinton Corners, NY	[illegible]	14	[illegible]	9.31	14
Wappingers Falls, NY	[illegible]	14	[illegible]	[illegible]	[illegible]
Wanaque:					
Wanaque, NJ	[illegible]	22	24	6.29	23
Pompton:					
Pompton Plains, NJ	16	22	[illegible]	[illegible]	[illegible]
Ramapo:					
Pompton Lakes, NJ	2	22	24	[illegible]	[illegible]
Mahwah, NJ	8	22	24	[illegible]	23
Rockaway:					
Boonton, NJ	[illegible]	22	[illegible]	7.09	23
Saddle:					
Lodi, NJ	5	22	23	7.04	23
Passaic:					
Chatham, NJ	[illegible]	22	[illegible]	6.24 6.11	22 24
Little Falls, NJ	7	[illegible]	[illegible]	[illegible]	[illegible]
Millstone:					
Blackwells Mills, NJ	7	22	[illegible]	11.59	23
Raritan:					
Manville, NJ	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bound Brook, NJ	8			[illegible]	
Assunpink:					
Trenton, NJ	[illegible]	[illegible]	22	[illegible]	[illegible]
Neshaminy Creek:					
Langhorne, PA	9	22	[illegible]	9.95	23
Perkiomen Creek:					
Graterford, PA	11	[illegible]	22	12.19	[illegible]
West Branch Delaware:					
Hale Eddy, NY	11	14	15	11.9	14
Beaverkill:					
Cooks Falls, NY	10	13	14	15.2	14
East Branch Delaware:					
Fishes Eddy, NY	[illegible]	[illegible] 30	[illegible] 31	13.8 9.51	14 31
Delaware:					
Callicoon, NY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Reiglesville, NY	22	[illegible]	[illegible]	22.0	[illegible]

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From—	Above flood stages —dates To—	Crest Stage	Crest Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE-Cont'd					
[illegible]					
[illegible], NY	11	[illegible]	15	[illegible]	14
Otselic Creek:					
Cincinnatus, NY	9	13	14	10.01	[illegible]
[illegible]:					
Whitney Point, NY	12	13 29	15 29	15.00 12.25	13 29
[illegible]:					
[illegible], NY	8	13 [illegible]	16 Apr 1	9.91 9.30	14 31
Greene, NY	13	13 31	15 Apr 1	15.50 13.54	[illegible] 31
Chenango Forks 2 S, NY	10	13	15	11.04	14
Chemung:					
Chemung, NY	[illegible]	13	14	13.11	14
Susquehanna:					
Unadilla, NY	11	13 31	16 Apr 1	[illegible] 11.21	14 31
Bainbridge, NY	[illegible]	13 30	17 Apr 2	22.2 16.6	15 31
Conklin, NY	11	[illegible] 30	18 Apr 2	16.89 13.19	16 Apr 1
Binghamton, NY	14	[illegible]	[illegible]	16.6	14
Vestal, NY	18	[illegible] 31	17 Apr 1	22.60 [illegible]	14 U
Neuse:					
Neuse, NC	14	8	9	14.5	9
Smithfield, NC	13	8	11	16.03	9
Goldsboro, NC	14	10	28	17.3	20
Kinston, NC	14	15	30	15.8	22
Cape Fear:					
Huske Lock & Dam, NC	42	9 15 24	[illegible] 16 25	[illegible] 46.3 45.0	9 15 24
Elizabethtown, NC	20	9 15 23	10 17 26	22.4 24.0 23.4	9 16 25
Rocky:					
Norwood, NC	[illegible]	30	31	30.00	31
Lumber:					
Lumberton, NC	9	5	1/	12.31	24
Little Pee Dee:					
Galivants Ferry, SC	[illegible]	11 22	[illegible] 1	9.2 10.7	15 28
Pee Dee:					
Cheraw, SC	30	23 31	23 1/	32.4 35.44	23 Apr 1
Pee Dee, SC	19	10	1/	22.51	Apr 6
Broad:					
Gaffney, SC	10	30	31	13.90	[illegible]
Blair, SC	14	[illegible] 22 30	14 23 1	15.0 16.8 26.5	13 22 Apr 1
Reedy:					
Greenville, SC	8	30	30	11.63	30
Saluda:					
Pelzer, SC	9	30	1/	12.8	31
Chappells, SC	14	13	[illegible]	14.6	14
Congaree:					
Columbia, SC	19	31	[illegible]	22.2	Apr 1
St. Matthews 17 NW, SC	[illegible]	14 23 31	[illegible] 25 1	117.5 120.7 122.3	[illegible] 23 Apr 2
South Fork Catawba:					
McAdenville, NC	10	30	31	13.0	30
ATLANTIC SLOPE DRAINAGE-Cont'd					
Wateree:					
Wateree Reservoir, SC	100	31	1/	102.6	Apr 1
North Fork Edisto:					
Orangeburg, SC	8	[illegible] 23	15 25	8.1 8.33	[illegible] 24
Edisto:					
Givhans Ferry, SC	10	9	1/	11.8	29
Stevens Creek:					
Modoc, SC	18	13	13	19.5	13
Savannah:					
Millhaven-Wade 2 SE, GA	15	27	29	15.3	28
Clyo, GA	11	10	1/	15.7	Apr 15
Ogeechee:					
Midville, GA	6	23	26	6.4	25
Scarboro, GA	8	7	1/	9.9	26
Eden, GA	9	8	1/	11.9	29
Oconee:					
Milledgeville, GA	20	23	23	22.7	23
Dublin, GA	21	25	27	22.3	26
Mt. Vernon, GA	16	27	31	17.8	28
Altamaha:					
Charlotte, GA	15	10	1/	18.3	Apr 1
Satilla:					
Waycross, GA	16	10	16	16.6	12
EAST GULF OF MEXICO DRAINAGE					
Santa Fe:					
Highway 48 Bridge, FL	17	20	27	17.37	[illegible]
Ochlockonee:					
Havana, FL	25	9	18	27.05	11
Flint:					
Albany, GA	20	9	9	20.1	9
Chattahoochee:					
Atlanta, GA	14	30	30	20.5	30
Apalachicola:					
Blountstown, FL	15	6 23	21 1/	19.40 19.47	11 Apr 6
Choctawhatchee:					
Caryville, FL	12	[illegible]	[illegible]	#12.4	9
Etowah:					
Canton, GA	17	30	31	23.60	31
Oostanaula:					
Resaca, GA	22	31	1/	28.6	Apr 7
Rome, GA	25	31	1/	31.95	Apr [illegible]
Cahaba:					
Centreville, AL	23	[illegible] 22 30	13 23 Apr 1	23.4 28.8 30.6	13 22 30
Alabama:					
Montgomery, AL	35	31	1/	41.8	Apr 2
Millers Ferry Lock & Dam, AL	66	14	18	69.8	16
Claiborne, AL	40	15	20	43.2	18
Old Town Creek:					
Tupelo, MS	21	12	14	22.7	12
Black Warrior:					
Tuscaloosa Lock & Dam, AL	47	13	15	50.9	[illegible]
Warrior Lock & Dam, AL	30	6 13	11 19	34.9 36.9	9 16

FLOOD STAGE DATA

[illegible]

River and station	Flood stage	Above flood stages—dates From—	 To—	Crest Stage	 Date
	Ft.			Ft.	
EAST GULF OF MEXICO DRAINAGE-Cont'd					
Tombigbee:					
[illegible]	[illegible]	5 [illegible]	[illegible] 15	39.5 34.3	[illegible] 14
Columbus, MS	[illegible]	6	11	35.1	8
[illegible]	[illegible]	[illegible]	22	[illegible]	[illegible]
Demopolis Lock & Dam, AL	[illegible]	[illegible]	[illegible]	60.3	17
Coffeeville Lock & Dam, AL	43	Feb 27 31	29 [illegible]	A56.5 55.1	18 [illegible]
Tallahala Creek:					
Laurel, MS	13	5	18	17.8	7
Chickasawhay:					
Enterprise, MS	[illegible]	4	17	23.0	14
Pascagoula:					
Merrill, MS	[illegible]	[illegible]	17	#23.2	13,14
Pearl:					
Jackson, MS	18	[illegible]	25	[illegible]	11
Monticello, MS	[illegible]	[illegible]	26	26.8	9
Columbia, MS	17	[illegible]	[illegible]	[illegible]	[illegible]
Bogalusa, LA	15	[illegible]	[illegible]	[illegible]	[illegible]
Pearl River, LA	12	[illegible]	[illegible]	15.7	[illegible]
UPPER MISSISSIPPI BASIN					
Yellow Medicine River:					
Granite Falls, MN	[illegible]	13	1	[illegible]	U
Redwood River:					
Redwood Falls, MN	[illegible]	[illegible]	[illegible]	10.26	U
Kankakee River:					
Dunns Bridge, IN	10	31	[illegible]	10.86	Apr 4
Bourbeuse River:					
Union, MO	[illegible]	30	[illegible] 1	[illegible]	31
Big River:					
Byrnesville, MO	16	28	[illegible]	#22.2	29
Meramec River:					
Steelville, MO	12	29	30	[illegible]	29
Sullivan, MO	15	29	29	#18.9	29
Pacific, MO	16	28	[illegible] 1	23.8	31
Eureka, MO	18	29	Apr 1	24.3	31
Valley Park, MO	16	[illegible]	Apr [illegible]	#21.7	31
Big Muddy River:					
Plumfield, IL	20	30	[illegible] 1	#25.5	30
[illegible]	[illegible]	28	[illegible]	#32.6	Apr 1
MISSOURI RIVER BASIN					
James River:					
Huron, SD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Big Sioux River:					
Brookings, SD	[illegible]	U	[illegible]	9.9	13
OHIO RIVER BASIN					
Licking:					
Blue Lick Springs, KY	[illegible]	[illegible]	5	23.13	5
Red:					
Clay City, KY	[illegible]	[illegible]	14	12.1	[illegible]
Rolling Fork:					
Boston, KY	35	[illegible] 14	[illegible] 15	35.70 36.34	6 15
Rough:					
Dundee, KY	25	[illegible]	6	25.63	5
OHIO RIVER BASIN-Cont'd					
Green:					
Woodbury, KY	[illegible]	5 14	[illegible] [illegible]	18.82 17.84	[illegible]
Rochester, KY	18	[illegible]	7	18.7	[illegible]
Spottsville, KY (Upper)	[illegible]	[illegible]	[illegible]	27.8	[illegible]
Embarrass:					
Lawrenceville, IL	[illegible]	28	[illegible]	15.4	30
White:					
[illegible]	14	[illegible]	30	14.2	29
[illegible]	[illegible]	[illegible] 28	[illegible]	18.2 [illegible]	6 [illegible]
Edwardsport, IN	[illegible]	[illegible] [illegible]	7	16.3 18.2	6 30
Petersburg, IN	16	4 [illegible]	8 [illegible]	17.5 17.7	[illegible] 31
Hazelton, IN	[illegible]	5 29	[illegible] [illegible]	17.4 #17.9	7 Apr 1,3
Skillet Fork:					
Wayne City, IL	15	[illegible]	Apr 1	20.4	30
Little Wabash:					
Wilcox, IL	16	13 28	[illegible] [illegible]	[illegible] [illegible]	14 [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	30.5	[illegible]
Wabash:					
[illegible], IN	[illegible]	[illegible] 29	[illegible] 31	12.6 13.3	[illegible] 30
[illegible]	16	30	31	16.2	31
Montezuma, IN	14	30	Apr [illegible]	14.4	30
Harpeth:					
[illegible]	21	[illegible] [illegible]	[illegible] 13	26.0 24.6	[illegible] 13
Kingston Springs, TN	[illegible]	4 [illegible]	[illegible] 14	23.3 18.2	4 12
Red:					
Port Royal, TN	30	4	5	32.8	
French Broad:					
Rosman, NC	8	12	13	12.20	[illegible]
Blantyre, NC	[illegible]	[illegible] [illegible]	15 [illegible]	20.7 17.9	13 [illegible]
South Chickamauga Creek:					
Chickamauga, TN	10	12 30	15 Apr 2	14.57 14.61	14 31
Sequatchie:					
[illegible]	13	14	16	14.0	14
Elk:					
Fayetteville, TN	661	[illegible]	13	662.0	13
Prospect, TN	[illegible]	12	14	28.6	[illegible]
Duck:					
Centerville, TN	20	13	[illegible]	23.5	13
[illegible]	18	[illegible]	16	19.4	14
Ohio:					
Newburgh, Dam 47 Upper, IN	20	6	[illegible]	21.7	8
Newburgh, Dam 47 Lower	38	[illegible]	[illegible]	39.2	[illegible]
Shawneetown, IL	33	[illegible]	[illegible]	35.4	10
Fords Ferry, Dam 50 Upper, KY	34	5 18	13 21	37.6 35.1	9 20
WHITE BASIN					
Buffalo:					
Gilbert, AR	30	28	[illegible]	30.5	28
Cache:					
Patterson, AR		4	[illegible]	8.8	13

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From—	To—	Crest Stage	Crest Date
	Ft.			Ft.	
[illegible]					
Spring:					
Imboden, AR	[illegible]	[illegible]	[illegible]	28.7	28
Black:					
Poplar Bluff, MO	[illegible]	28	30	020.1	29
Pocahontas, AR	17	28	1	24.20	Apr 1
Black Rock, AR	14	[illegible] 28	[illegible] 1/	16.6 25.6	13 Apr [illegible]
White:					
Calico Rock, AR	19	28	29	20.0	28
Batesville, AR	[illegible]	[illegible]	[illegible]	28.0	28
Newport, AR	26	30	1/	[illegible]	31
Augusta, AR	[illegible]	29	1	33.7	Apr 2
ARKANSAS RIVER BASIN					
Illinois:					
Tahlequah, OK	[illegible]	28	29	12.3	29
Poteau:					
Poteau, OK	[illegible]	28	29	26.2	28
RED RIVER BASIN					
Blue:					
Blue, OK	21	26	29	33.6	27
Clear Boggy Creek:					
[illegible], OK	19	[illegible]	31	23.8	27
Muddy Boggy Creek:					
Farris, OK	38	27	30	[illegible]	27
Glover Creek:					
Glover, OK	16		28	20.0	28
Little:					
Idabel, OK	30	28	30	30.6	29
Sulphur:					
Hagansport, TX	[illegible]	4 27	[illegible] 1/	047.01 48.59	5 29
Naples, TX	22	[illegible] 29	[illegible] 1	28.75 30.55	8 31
Saline:					
Benton, AR	20	[illegible] 28	4 29	22.78 21.60	[illegible] 28
Ouachita:					
Arkadelphia, AR	17	3 28	5 29	21.39 21.60	[illegible] 28
Camden, AR	[illegible]	6 30	11 1	30.3 30.6	[illegible] Apr 2
Red:					
Dekalb, TX	[illegible]	29	30	27.40	29
LOWER MISSISSIPPI BASIN					
St. Francis:					
Fisk, MO	20	28	[illegible]	[illegible]	30
St. Francis, AR	18	28	[illegible]	23.4	29
Big Black:					
West, MS	[illegible]	[illegible]	20	21.9	5
Bovina, MS	28	4	[illegible]	37.8	13
WEST GULF OF MEXICO DRAINAGE					
Calcasieu:					
Hineston, LA	12	[illegible] [illegible]	19 [illegible]	17.3 14.51	[illegible] Apr 4
Oakdale, LA	12	[illegible]	[illegible]	12.2	8
Lake Fork:					
Quitman, TX (near)	16	[illegible] 28	8 1/	[illegible] 17.60	[illegible] [illegible]
WEST GULF OF MEXICO DRAINAGE-Cont'd					
Sabine:					
Emory, TX	12	3 28	11 1/	13.84 15.20	4 29
Mineola, TX	14	[illegible] 28	10 1	17.66 18.04	6 Apr 1
Gladewater, TX	26	10	[illegible]	[illegible]	13
Longview, TX	[illegible]	Feb 13 17	3 20	29.51 25.66	Feb 24 17
Deweyville, TX	14	[illegible]	11	[illegible]	[illegible]
Attoyac Bayou:					
Chireno, TX (near)	14	[illegible]	12	[illegible]	8
Angelina:					
Lufkin, TX (near)	8	Feb 11 29	20 1/	11.38 8.92	Feb 22 30
Neches:					
Neches, TX (near)	[illegible]	4 12	6 16	16.40 16.30	5 14
Alto, TX (near)	16	Feb 12	[illegible]	17.95	Feb 20
Diboll, TX (near)	10	Feb 7	1/	13.32	Feb 27
East Fork Trinity:					
Crandall, TX	13	4 29	[illegible] 1/	14.40 15.77	4 30
Chambers Creek:					
Corsicana, TX (near)	20	4 29	4 29	21.28 24.10	4 29
Richland Creek:					
Richland, TX (near)	20	4 28	4 29	20.5 20.88	4 4
Trinity:					
Dallas, TX	30	28	1/	37.83	29
Rosser, TX	26	30	1/	34.04	30
Trinidad, TX	28	4 28	8 1/	32.58 39.72	6 Apr 1
Moss Bluff, TX	4	1	21	7.0	1
Navasota:					
Easterly, TX (near)	14	6 31	8 31	15.0 14.2	7 31
Bryan, TX	12	8	11	12.83	10

I Stage Affected by Ice Jam

A See Previous Monthly Reports for Additional Crest Information

RAWINSONDE DATA

Average monthly values

MARCH 1972

ALBANY, NY
1005 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	86	.8	-2.6	29	1.6
1000	23	152	2.0	-3.0	26	2.4
950	31	538	1.4	-4.4	28	6.0
900	31	971	-.8	-6.7	29	8.6
850	31	1,426	-2.6	-8.8	30	10.2
800	31	1,906	-4.1	-12.4	29	11.4
750	31	2,414	-5.8	-16.5	29	11.6
700	31	2,952	-8.6	-19.3	29	12.8
650	31	3,524	-11.6	-21.9	28	14.5
600	31	4,133	-15.1	-25.3	28	14.3
550	31	4,786	-19.1	-29.7	28	16.1
500	31	5,489	-23.8	-34.8	28	18.8
450	30	6,249	-28.7	-39.3	28	21.4
400	30	7,083	-34.3	-42.8	28	24.1
350	30	8,008	-40.7	-44.4	27	26.3
300	29	9,051	-47.0		28	28.6
250	29	10,246	-51.6		28	37.1
200	29	11,687	-53.9		28	32.1
175	29	12,545	-53.8		28	31.6
150	29	13,537	-54.0		28	27.4
125	29	14,706	-55.0		28	21.0
100	29	16,120	-56.8		28	19.8
80	27	17,530	-57.7		28	13.6
70	27	18,372	-57.8		28	11.9
60	27	19,342	-58.9		28	8.4
50	25	20,493	-57.7		29	6.0
40	24	21,901	-57.4		30	4.0
30	23	23,723	-56.4		36	.5
25	21	24,883	-55.8		30	.8
20	19	26,304	-55.0		28	.9
15	16	28,148	-52.7		27	5.8
10	11	30,751	-50.4			
7	5	33,086	-47.3			

ALBUQUERQUE, NM
833 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	29	1,619	.7	-11.2	34	.6
1000						
950						
900						
850						
800	29	1,943	2.7	-11.4	26	4.0
750	29	2,462	-.3	-14.6	27	6.5
700	29	3,011	-3.8	-17.2	27	7.[illegible]
650	29	3,591	-7.9	-20.4	26	9.5
600	29	4,209	-11.6	-25.2	26	11.4
550	29	4,871	-15.8	-28.7	26	14.3
500	29	5,583	-20.8	-33.2	26	17.5
450	28	6,355	-26.3	-38.8	26	20.4
400	28	7,196	-32.1	-41.7	26	24.3
350	27	8,133	-38.3	-45.3	26	27.9
300	27	9,176	-44.7		26	33.7
250	27	10,380	-50.2		25	40.9
200	27	11,828	-53.0		26	45.3
175	27	12,687	-54.5		26	42.1
150	26	13,669	-56.0		25	36.5
125	26	14,821	-59.2		25	33.5
100	26	16,210	-62.0		26	27.7
80	26	17,586	-62.7		26	19.7
70	26	18,411	-62.4		26	14.0
60	26	19,363	-61.7		25	9.6
50	25	20,497	-60.3		26	5.6
40	25	21,896	-58.9		27	3.2
30	22	23,705	-57.7		28	2.2
25	21	24,866	-56.3		30	2.0
20	19	26,289	-54.5		34	1.8
15	18	28,147	-51.9		34	1.8
10	15	30,820	-47.1		28	3.7
7	6	33,264	-42.3			

AMARILLO, TX
886 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	1,095	2.7	-5.1	26	2.8
1000						
950						
900						
850	31	1,434	5.6	-7.3	27	4.8
800	31	1,930	4.9	-10.4	27	8.2
750	31	2,454	2.1	-12.9	27	10.1
700	31	3,000	-1.7	-16.1	26	11.9
650	31	3,592	-5.4	-19.5	26	13.9
600	31	4,216	-9.6	-22.8	25	16.8
550	31	4,882	-14.1	-27.5	25	19.1
500	31	5,598	-19.3	-32.4	25	21.[illegible]
450	31	6,373	-24.8	-36.6	25	23.9
400	31	7,22[illegible]	-30.7	-41.8	25	26.2
350	31	8,157	-37.3	-45.8	25	29.8
300	31	9,205	-43.9	-49.2	25	36.0
250	31	10,41[illegible]	-50.2		26	39.4
200	30	11,85[illegible]	-53.5		26	40.7
175	30	12,708	-54.9		26	39.1
150	30	13,685	-57.1		26	36.7
125	30	14,834	-60.2		26	32.5
100	30	16,216	-62.7		26	25.0
80	30	17,588	-63.8		25	14.7
70	30	18,407	-63.5		25	11.5
60	30	19,355	-62.4		25	9.7
50	30	20,484	-60.6		25	7.7
40	29	21,878	-59.9		26	4.5
30	26	23,682	-57.6		29	3.2
25	26	24,835	-56.8		32	2.2
20	25	26,253	-55.3		29	3.5
15	21	28,101	-52.7		29	4.2
10	12	30,764	-47.2		28	4.5
7	7	33,154	-41.8			

*** ANCHORAGE, AK**
100[illegible] MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	[illegible]	-5.3	-11.7	02	[illegible]
1000	19	120	-5.[illegible]	-12.0	04	[illegible]
950	31	454	-6.8	-12.5	[illegible]	1.4
900	31	815	-8.4	-13.5	2[illegible]	.3
850	31	1,317	-10.9	-15.1	2[illegible]	[illegible].0
800	31	1,781	-11.3	-17.4	2[illegible]	[illegible]
750	31	2,270	-15.9	-22.2	22	2.8
700	31	2,787	-18.8	-25.[illegible]	22	4.[illegible]
650	31	3,336	-21.7	-29.[illegible]	24	5.6
600	31	3,921	-25.4	-33.8	25	7.5
550	31	4,547	-29.4	-37.[illegible]	25	9.2
500	31	5,222	-33.8	-40.8	25	11.5
450	31	5,952	-39.1	-43.5	25	12.3
400	31	6,750	-44.6	-44.8	25	13.4
350	31	7,637	-49.5		25	15.8
300	31	8,635	-53.0		25	14.9
250	31	9,813	-51.7		25	15.5
200	31	11,270	-48.7		25	13.[illegible]
175	31	12,149	-48.5		25	12.7
150	31	13,165	-47.[illegible]		25	12.6
125	30	14,380	-48.2		25	11.0
100	30	15,850	-48.0		26	9.7
80	30	17,320	-48.4		25	8.1
70	30	18,199	-48.7		25	6.6
60	29	19,210	-48.4		25	5.8
50	28	20,406	-48.4		25	4.8
40	28	21,878	-47.4		25	2.7
30	27	23,784	-46.7		26	1.7
25	27	24,995	-46.4		27	.4
20	27	26,481	-45.3		36	1.0
15	24	28,416	-43.8		05	3.4
10	17	31,176	-41.0		06	6.4
7	6	33,606	-37.2			

*** ANNETTE, AK**
10[illegible]7 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	30	[illegible]7	2.5	-.[illegible]	18	.9
1000	22	[illegible]	2.3	-1.1	19	1.0
950	30	5[illegible]2	-.4	-2.3	18	2.6
900	30	932	-3.4	-5.0	21	3.4
850	30	1,382	-6.4	-8.6	22	4.2
800	30	1,864	-9.2	-13.4	24	5.3
750	30	2,350	-11.9	-18.2	25	6.5
700	30	2,875	-15.2	-21.4	26	7.8
650	30	3,432	-18.5	-25.5	27	8.5
600	30	4,025	-22.0	-29.5	27	10.3
550	30	4,661	-25.7	-33.4	28	12.5
500	30	5,345	-30.4	-37.4	28	14.7
450	30	6,087	-35.4	-40.9	29	17.7
400	30	6,897	-41.0	-41.9	29	20.2
350	30	7,796	-47.1		30	23.3
300	30	8,8[illegible]	-52.3		3[illegible]	27.1
250	30	9,9[illegible]	-55.6		3[illegible]	26.4
200	29	11,396	-52.9		29	19.2
175	30	12,264	-51.4		30	15.3
150	30	13,2[illegible]0	-50.9		29	14.2
125	30	14,452	-51.4		29	12.2
100	30	15,8[illegible]8	-52.3		30	9.8
80	30	17,342	-52.3		29	7.4
70	30	18,207	-52.0		29	6.2
60	28	19,203	-51.8		29	4.4
50	28	20,387	-51.2		30	3.5
40	28	21,8[illegible]	-51.0		33	2.4
30	27	23,716	-50.2		03	2.8
25	27	24,911	-49.1		06	4.1
20	24	26,383	-48.0		06	5.5
15	20	28,300	-46.8		06	6.9
10	13	31,0[illegible]	-45.5		05	9.9
7						

ATHENS, GA
989 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	246	9.4	5.5	23	.3
1000						
950	31	577	11.6	3.1	24	2.2
900	31	1,028	9.8	-.5	25	4.9
850	31	1,501	7.7	-3.5	26	7.3
800	31	1,999	5.9	-7.0	26	9.6
750	31	2,526	4.0	-11.7	26	11.9
700	31	3,084	1.1	-14.5	26	15.2
650	31	3,676	-2.4	-17.7	26	17.5
600	31	4,308	-5.9	-19.1	26	21.1
550	31	4,984	-10.1	-23.1	26	24.2
500	31	5,712	-14.8	-27.1	26	26.7
450	31	6,502	-20.0	-30.6	26	29.9
400	31	7,365	-26.3	-36.5	26	33.1
350	31	8,321	-32.7	-40.0	27	37.2
300	31	9,386	-40.5	-46.4	27	41.7
250	31	10,604	-49.5		27	45.5
200	31	12,039	-57.0		27	48.5
175	31	12,880	-59.[illegible]		27	44.2
150	31	13,844	-60.2		27	41.1
125	31	14,973	-63.7		27	33.4
100	31	16,329	-66.8		27	26.1
80	30	17,675	-67.4		27	17.6
70	30	18,480	-67.4		27	14.[illegible]
60	30	19,417	-64.4		27	10.2
50	30	20,537	-62.4		28	5.2
40	30	21,921	-60.5		29	4.3
30	30	23,725	-57.6		31	2.2
25	30	24,880	-56.1		28	3.3
20	29	26,306	-53.3		27	5.2
15	29	28,172	-49.7		26	10.3
10	27	30,867	-43.9		26	20.6

*** BARROW, AK**
1018 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	29	8	-30.6	-33.5	05	3.4
1000	29	138	-28.9	-30.7	08	5.5
950	29	507	-25.8	-27.9	09	7.2
900	29	901	-23.6	-26.3	09	7.2
850	29	1,320	-22.0	-25.8	09	6.9
800	29	1,766	-22.2	-26.6	09	5.4
750	29	2,239	-23.9	-29.1	10	4.5
700	29	2,741	-26.3	-32.2	10	3.9
650	29	3,274	-28.8	-36.2	11	2.9
600	29	3,843	-32.1	-39.4	12	2.3
550	29	4,453	-35.6	-43.1	14	2.3
500	29	5,110	-39.8	-45.6	13	2.1
450	29	5,823	-44.3		15	2.1
400	29	6,604	-49.2		21	2.0
350	29	7,474	-53.8		22	2.6
300	29	8,456	-55.2		24	3.4
250	29	9,628	-52.0		24	4.5
200	29	11,083	-49.6		24	6.1
175	28	11,953	-48.9		25	7.0
150	28	12,967	-48.3		24	7.6
125	28	14,170	-47.8		24	8.9
100	26	15,641	-47.1		24	10.3
80	21	17,131	-46.6		24	10.7
70	20	18,031	-46.9		25	11.2
60	17	19,090	-47.0		25	11.7
50	15	20,310	-47.6		26	11.6
40	10	21,825	-47.5		26	10.9
30	6	23,729	-47.7			

BARTER ISLAND, AK
1015 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	15	-32.9	-36.5	24	1.6
1000	30	120	-30.4	-33.0	08	.3
950	31	491	-25.7	-28.0	08	1.5
900	31	885	-22.5	-25.6	10	1.3
850	31	1,307	-19.7	-24.7	10	1.3
800	31	1,758	-19.9	-25.6	13	.6
750	31	2,235	-21.7	-27.9	22	.9
700	31	2,741	-24.2	-32.1	23	1.2
650	31	3,279	-27.1	-35.6	24	2.2
600	31	3,852	-30.4	-38.7	25	3.2
550	31	4,466	-34.2	-41.6	24	4.2
500	31	5,12[illegible]	-38.6	-44.6	24	4.[illegible]
450	31	5,844	-43.1		24	5.7
400	31	6,628	-48.3		24	6.5
350	31	7,501	-52.9		24	7.6
300	31	8,48[illegible]	-54.6		25	7.7
250	31	9,662	-51.2		25	8.4
200	31	11,123	-48.5		25	8.[illegible]
175	31	12,003	-47.9		25	8.4
150	31	13,022	-47.3		25	9.0
125	31	14,229	-46.8		25	9.5
100	30	15,704	-46.9		26	10.0
80	30	17,182	-47.2		26	10.1
70	30	18,065	-47.5		26	10.5
60	30	19,084	-47.6		26	10.5
50	30	20,289	-47.6		26	11.3
40	30	21,763	-47.4		27	11.8
30	30	23,668	-46.8		27	12.1
25	30	24,877	-46.7		27	12.8
20	30	26,359	-46.1		28	14.0
15	26	28,278	-44.5		29	16.5
10	11	31,044	-44.5			

BETHEL, AK
1002 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	39	-15.1	-18.1	34	1.0
1000	21	110	-14.4	-16.6	26	1.8
950	31	447	-11.4	-14.3	29	2.1
900	31	862	-11.3	-14.9	26	2.7
850	31	1,300	-12.8	-18.1	25	4.0
800	31	1,761	-14.9	-20.6	25	4.8
750	31	2,247	-17.3	-25.4	24	5.7
700	31	2,761	-20.1	-28.5	24	7.2
650	31	3,307	-23.3	-30.9	24	8.0
600	31	3,889	-26.8	-33.1	24	9.4
550	31	4,512	-30.7	-36.2	24	10.2
500	31	5,183	-35.0	-40.5	24	11.6
450	31	5,910	-39.9	-42.0	24	12.9
400	31	6,706	-44.8	-43.8	24	14.1
350	31	7,592	-49.7		24	16.1
300	30	8,586	-53.2		24	17.3
250	30	9,764	-51.7		25	17.2
200	30	11,222	-48.5		24	15.0
175	29	12,096	-47.8		24	13.5
150	29	13,114	-47.5		24	13.3
125	29	14,319	-47.3		24	12.5
100	29	15,796	-47.2		24	10.3
80	28	17,282	-47.8		24	9.5
70	27	18,158	-47.8		24	8.2
60	27	19,176	-47.9		24	6.8
50	27	20,381	-47.5		24	6.3
40	26	21,851	-47.2		23	4.7
30	25	23,755	-46.3		25	3.3
25	25	24,968	-45.7		24	2.5
20	22	26,456	-44.9		02	.3
15	11	28,398	-43.3		13	1.4

*** BISMARCK, ND**
951 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	503	-3.0	-6.3	01	1.0
1000						
950	18	556	-4.2	-7.9	33	1.5
900	31	942	-.9	-7.3	33	3.1
850	31	1,397	-1.7	-10.6	34	3.8
800	31	1,878	-3.9	-13.3	34	3.8
750	31	2,385	-6.4	-14.9	32	4.0
700	31	2,921	-9.7	-17.6	31	4.9
650	31	3,490	-13.1	-21.5	30	5.6
600	31	4,096	-17.0	-25.[illegible]	29	6.4
550	31	4,743	-21.4	-28.4	28	7.2
500	31	5,439	-26.1	-34.6	28	8.7
450	30	6,192	-31.7	-39.7	27	10.5
400	30	7,014	-37.9	-44.7	27	12.1
350	30	7,924	-44.6		27	13.1
300	30	8,936	-51.5		26	14.1
250	30	10,108	-55.5		27	17.0
200	29	11,530	-54.0		27	18.0
175	28	12,395	-51.8		26	17.8
150	28	13,395	-51.7		26	16.2
125	28	14,574	-52.6		26	14.7
100	27	16,009	-54.2		27	13.4
80	27	17,436	-55.0		27	9.8
70	27	18,290	-54.7		27	9.8
60	26	19,278	-54.8		27	8.6
50	26	20,441	-55.4		28	5.8
40	25	21,863	-55.8		30	3.4
30	24	23,697	-54.7		36	3.2
25	24	24,864	-54.8		02	3.6
20	23	26,293	-54.1		03	5.6
15	18	28,140	-52.9		03	7.6
10	12	30,756	-51.2			

BOISE, ID
914 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	871	.0	-5.6	11	1.1
1000						
950						
900	31	993	2.1	-5.8	07	.4
850	31	1,453	.1	-8.7	29	3.0
800	31	1,936	-3.5	-10.4	29	5.3
750	31	2,443	-7.0	-13.4	29	6.6
700	31	2,977	-10.8	-17.4	29	7.4
650	31	3,544	-14.0	-20.4	29	7.8
600	31	4,147	-17.[illegible]	-25.6	29	8.8
550	31	4,793	-22.1	-29.6	29	9.4
500	31	5,486	-27.1	-34.7	29	10.2
450	31	6,237	-32.5	-38.9	28	10.7
400	31	7,057	-38.6	-43.0	28	11.1
350	31	7,965	-44.7		28	11.4
300	31	8,980	-50.5		29	13.7
250	31	10,158	-54.4		29	17.1
200	31	11,586	-54.3		29	16.3
175	30	12,444	-53.2		28	17.0
150	30	13,438	-53.1		28	15.6
125	30	14,611	-54.2		27	14.4
100	30	16,038	-55.1		27	12.3
80	29	17,459	-56.1		27	8.7
70	29	18,309	-55.4		26	7.0
60	28	19,292	-55.7		26	5.4
50	28	20,453	-55.7		26	3.5
40	28	21,875	-55.5		30	1.2
30	28	23,713	-54.5		07	2.7
25	27	24,882	-53.5		05	4.[illegible]
20	26	26,325	-52.2		06	7.3
15	22	28,181	-51.0		06	9.9
10	11	30,829	-47.3			
7						

BOOTHVILLE, LA
1016 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	1	16.7	14.6	09	1.5
1000	31	132	17.3	12.5	12	2.1
950	31	570	15.6	8.4	17	4.5
900	31	1,028	14.0	4.5	21	5.5
850	31	1,509	12.3	1.7	22	7.6
800	31	2,016	11.1	-3.5	23	8.9
750	31	2,553	9.2	-7.7	24	10.[illegible]
700	31	3,122	6.2	-11.2	24	13.1
650	31	3,725	2.7	-14.1	25	15.1
600	31	4,368	-1.4	-16.2	25	17.5
550	31	5,055	-6.0	-20.3	26	19.8
500	31	5,794	-11.1	-24.7	26	22.4
450	31	6,596	-16.3	-29.4	26	25.4
400	31	7,471	-22.4	-34.2	26	29.5
350	31	8,442	-29.0	-41.7	26	31.7
300	31	9,523	-37.4	-49.3	26	35.8
250	31	10,756	-47.1		27	39.3
200	31	12,199	-57.3		27	39.5
175	31	13,038	-60.3		27	40.4
150	31	13,992	-63.4		27	37.4
125	31	15,105	-66.2		27	31.8
100	31	16,446	-69.8		26	23.9
80	30	17,771	-71.2		26	15.[illegible]
70	30	18,562	-70.1		26	11.6
60	29	19,490	-67.3		26	6.6
50	28	20,599	-62.5		28	2.1
40	28	21,986	-59.7		30	1.9
30	28	23,800	-55.9		32	3.0
25	27	24,968	-53.6		30	3.8
20	26	26,415	-50.4		27	5.6
15	26	28,305	-47.2		26	10.6
10	23	31,017	-42.6		25	17.7
7	8	33,432	-40.6			

*** BROWNSVILLE, TX**
1011 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	7	17.3	14.6	14	2.3
1000	30	106	18.2	14.3	13	3.5
950	31	542	16.6	10.3	15	7.0
900	31	1,002	15.9	4.[illegible]	17	7.3
850	31	1,488	15.7	-1.3	19	7.1
800	31	2,001	14.4	-3.1	20	7.8
750	31	2,544	12.0	-5.9	22	8.7
700	31	3,119	9.7	-11.3	23	9.7
650	31	3,730	5.5	-14.0	24	11.0
600	31	4,378	.7	-17.0	25	13.4
550	31	5,070	-4.1	-19.4	25	14.0
500	31	5,815	-9.1	-22.7	25	19.2
450	31	6,623	-14.3	-28.5	25	22.8
400	31	7,505	-20.3	-34.0	25	26.5
350	31	8,483	-27.7	-40.0	25	29.2
300	31	9,569	-36.4	-48.8	26	31.3
250	31	10,806	-46.6		26	35.4
200	31	12,250	-57.4		26	30.2
175	31	13,085	-61.9		26	37.3
150	31	14,031	-65.2		26	35.4
125	31	15,132	-69.0		26	29.5
100	30	16,454	-73.2		25	20.0
80	28	17,749	-75.3		24	13.5
70	28	18,526	-73.5		24	8.3
60	27	19,441	-69.4		22	3.5
50	26	20,542	-64.3		16	1.5
40	26	21,921	-60.3		07	2.7
30	26	23,730	-57.1		03	2.8
25	26	24,892	-54.3		01	1.3
20	25	26,335	-51.0		31	2.3
15	24	28,224	-46.9		26	5.6
10	20	30,944	-43.7		24	14.2
7	8	33,353	-40.0			

BUFFALO, NY
989 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	218	1.6	-2.4	22	2.4
1000						
950	31	539	2.1	-3.4	24	5.8
900	31	975	.2	-6.1	25	7.7
850	31	1,431	-2.3	-10.1	27	8.2
800	31	1,910	-4.6	-11.9	27	9.0
750	31	2,417	-6.2	-15.3	27	10.5
700	31	2,955	-8.5	-19.2	27	11.9
650	31	3,526	-11.5	-23.1	28	13.3
600	31	4,136	-14.9	-26.9	28	15.2
550	31	4,789	-19.0	-29.7	28	16.8
500	30	5,498	-23.7	-34.1	27	17.9
450	30	6,260	-28.9	-38.4	27	19.9
400	30	7,093	-34.6	-43.4	27	22.8
350	30	8,017	-40.5	-44.5	27	25.9
300	30	9,050	-46.6		27	28.3
250	30	10,245	-51.9		27	31.8
200	30	11,685	-53.5		27	32.5
175	30	12,542	-54.1		27	31.0
150	30	13,531	-54.2		27	29.0
125	30	14,697	-55.7		27	25.[illegible]
100	29	16,106	-57.0		27	21.7
80	29	17,516	-57.7		27	17.9
70	29	18,358	-58.3		27	15.2
60	27	19,323	-58.3		27	11.6
50	27	20,471	-58.1		28	8.2
40	26	21,877	-58.1		28	6.2
30	23	23,695	-56.6		30	2.0
25	23	24,851	-56.6		28	2.8
20	23	26,270	-56.0		28	3.4
15	22	28,111	-53.8		26	6.3
10	8	30,675	-51.7			

CAPE HATTERAS, NC
1018 MB

Standard pressure surface mb	No. of observations	Geopotential height meters	Temperature °C	Dew Point °C	Resultant Wind Direction	Resultant Wind Speed
SFC	31	4	11.0	7.2	34	.9
1000	31	153	12.5	5.6	29	1.0
950	31	582	10.1	1.8	28	2.3
900	31	1,030	7.8	-.7	27	4.5
850	31	1,499	5.6	-4.9	27	8.4
800	31	1,995	4.6	-9.0	27	10.2
750	31	2,519	2.6	-12.2	27	12.5
700	31	3,075	-.1	-15.2	28	15.2
650	31	3,665	-3.2	-17.2	28	18.1
600	31	4,294	-6.8	-20.9	28	20.9
550	31	4,968	-10.9	-23.1	27	23.7
500	31	5,694	-15.8	-26.9	28	26.6
450	31	6,480	-21.2	-32.0	28	29.8
400	31	7,339	-27.1	-37.2	28	31.4
350	31	8,291	-34.0	-41.7	28	35.2
300	30	9,348	-42.3	-46.3	28	38.8
250	28	10,570	-51.0		28	44.0
200	26	12,008	-56.6		29	44.7
175	25	12,853	-57.6		29	42.1
150	23	13,8[illegible]	-58.9		28	35.3
125	23	14,956	-62.2		28	32.2
100	20	16,311	-65.2		28	24.5
80	17	17,674	-66.1		28	16.3
70	17	18,484	-65.1		28	13.0
60	16	19,43[illegible]	-62.9		29	8.3
50	12	20,552	-61.9			
40	11	21,94[illegible]	-59.9		30	5.3
30	10	23,753	-57.3		29	2.9
25	8	24,897	-56.0			
20	8	26,321	-54.5			

RAWINSONDE DATA

Average monthly values

MARCH 1977

* CARIBOU, ME
988 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	30	[illegible]	-2.6	-7.5	33	2.4
1000						
950	30	504	-2.5	-7.1	[illegible]	3.7
900	30	932	-3.7	-8.2	31	[illegible]
850	30	1,382	-5.1	-11.0	[illegible]	5.4
800	30	1,858	-7.0	-13.4	31	5.9
750	30	[illegible]	-9.1	-16.2	[illegible]	6.0
700	30	2,891	-11.4	-17.9	30	7.4
650	30	3,457	-14.0	-20.9	29	[illegible]
600	30	4,061	-17.0	-24.6	29	9.0
550	30	4,710	-20.7	-29.2	29	11.0
500	30	[illegible]	-25.1	-33.7	29	12.8
450	30	6,167	-30.2	-37.9	29	14.4
400	30	6,995	-35.7	-41.8	29	15.4
350	30	7,914	-42.5	-46.8	28	15.3
300	30	8,936	-49.2		28	[illegible]
250	30	10,121	-52.8		28	19.8
200	30	11,561	-52.3		28	20.2
175	29	12,413	-52.2		28	19.5
150	29	13,412	-51.9		28	17.4
125	26	14,583	-52.7		28	15.6
100	26	16,020	-53.7		28	14.8
80	25	17,447	-54.5		28	12.0
70	25	18,300	-55.2		28	10.9
60	24	19,278	-55.5		28	9.4
50	24	20,440	-55.7		29	6.7
40	22	21,861	-55.9		30	5.0
30	21	23,691	-55.6		32	4.3
25	20	24,850	-55.5		33	3.5
20	19	26,265	-55.3		31	4.2
15	17	28,106	-54.1		28	6.2
10	12	30,724	-51.5			
7						

CENTREVILLE, AL
[illegible] MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	30	140	10.8	5.3	07	.8
1000	19	178	10.0	2.0	04	1.5
950	30	581	12.3	1.8	19	.8
900	30	1,033	10.5	.8	23	4.5
850	30	1,507	8.4	-1.3	25	6.4
800	30	2,007	[illegible]	-5.6	25	9.0
750	30	2,535	4.9	-8.4	26	10.9
700	30	3,095	1.7	-12.4	26	13.0
650	30	3,689	-1.4	-15.6	26	15.8
600	30	4,323	-5.0	-18.1	26	[illegible]
550	30	5,001	-9.5	-21.8	26	22.6
500	30	5,731	-14.3	-26.6	26	26.1
450	30	6,523	[illegible]	-29.2	26	28.5
400	30	7,389	-25.0	-34.4	26	30.5
350	30	8,349	-32.0	-41.7	26	36.0
300	30	9,417	-40.2	-48.2	27	39.9
250	29	10,635	-49.0		27	45.7
200	29	12,072	-56.8		27	46.4
175	29	12,914	-58.9		27	44.1
150	29	13,877	-61.0		27	39.0
125	28	15,001	-64.4		27	33.8
100	28	16,353	-67.9		27	26.7
80	28	17,691	-68.5		27	19.0
70	28	18,493	-67.7		27	[illegible]
60	28	19,425	-65.9		27	8.1
50	28	20,540	-62.7		28	7.1
40	28	21,923	-60.5		27	4.5
30	27	23,723	-58.2		31	3.3
25	26	24,880	-56.1		29	3.0
20	26	[illegible]	-53.5		26	6.0
15	24	28,173	-50.1		26	9.5
10	23	30,858	-44.6		26	20.1
7	8	33,216	-39.8			

CHARLESTON, SC
1017 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	[illegible]	12.4	9.3	23	1.0
1000	31	153	14.8	8.5	22	.9
950	31	588	14.3	4.7	25	3.6
900	31	1,043	11.8	2.1	25	5.6
850	31	1,519	9.2	-1.0	25	7.4
800	31	2,020	7.1	-5.0	26	8.9
750	31	2,549	5.2	-9.1	26	11.1
700	31	3,110	2.5	-12.5	26	13.5
650	31	3,706	-.5	-16.7	26	15.8
600	31	4,341	-4.5	-19.3	27	19.2
550	31	5,021	-9.0	-22.6	27	[illegible]
500	31	5,782	-13.5	-26.7	27	[illegible]
450	31	6,540	-18.8	-31.2	27	27.3
400	31	7,413	-24.9	-35.7	27	31.0
350	31	8,373	-31.8	-40.5	27	34.3
300	31	9,442	-40.0	-47.3	27	39.0
250	31	10,662	-49.1		28	41.9
200	31	12,099	-57.1		28	45.9
175	31	12,940	-59.0		28	43.5
150	31	13,903	-60.7		28	38.6
125	31	15,029	-64.1		28	33.7
100	31	16,383	-67.5		28	26.8
80	29	17,727	-68.3		28	19.4
70	29	18,529	-67.4		27	14.2
60	29	19,463	-64.8		28	[illegible]
50	29	20,583	-62.6		28	5.8
40	28	21,968	-60.2		30	4.3
30	27	23,772	-57.5		31	3.3
25	25	24,935	-54.7		28	4.2
20	25	26,374	-51.4		27	4.2
15	24	28,261	-47.6		26	10.1
10	19	30,984	-42.8		25	[illegible]
7						

CHATHAM, MA
1011 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	16	2.3	-.8	28	3.0
1000	28	127	4.8	-2.2	28	5.0
950	31	525	3.3	-4.5	29	7.9
900	31	962	1.1	-6.7	30	7.3
850	31	1,420	-.9	-9.2	29	[illegible]
800	31	1,903	-2.8	-13.8	29	9.6
750	31	2,412	-5.0	-16.6	28	11.2
700	31	2,952	-7.9	-20.6	29	12.2
650	31	3,525	-10.7	-24.0	29	13.3
600	31	4,136	-14.4	-28.2	28	14.9
550	31	4,791	[illegible]	-30.6	28	16.3
500	31	5,496	-23.1	-35.6	28	18.3
450	31	6,260	-28.0	-38.5	28	21.8
400	31	7,096	-33.3	-41.2	28	26.2
350	31	8,025	-39.5	-43.9	28	29.7
300	30	9,054	-45.7		28	34.3
250	30	10,256	-50.4		28	37.8
200	30	11,703	-52.6		28	34.7
175	30	12,565	-53.3		28	31.0
150	30	13,556	-53.8		28	29.1
125	30	14,722	[illegible]		28	25.2
100	30	16,139	-57.4		28	19.4
80	30	17,545	-58.5		28	14.7
70	30	18,385	-58.5		27	11.8
60	29	19,353	-59.0		28	9.3
50	29	20,498	-58.3		28	6.9
40	28	21,906	-57.7		29	4.1
30	28	23,727	-56.6		30	2.5
25	28	24,886	-55.7		29	2.4
20	26	26,317	-54.4		28	3.1
15	21	28,176	-51.7		27	5.3
10	14	30,841	-46.5		26	11.7
7	[illegible]	33,211	-42.0			

CHIHUAHUA, MEXICO
855 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	1,428	6.4	-7.5	23	1.8
1000						
950						
900						
850	29	1,477	8.6	-8.8	23	1.6
800	31	1,976	8.6	-8.8	24	4.3
750	31	2,506	5.7	-11.7	25	8.1
700	31	3,067	2.9	-14.9	25	12.1
650	31	3,664	-.4	-17.9	25	14.7
600	31	4,299	-4.2	-20.4	25	16.7
550	31	4,980	-8.3	-23.1	25	20.7
500	31	5,713	-13.1	-26.0	25	23.8
450	31	6,508	-17.9	-29.9	25	27.3
400	31	7,379	-24.0	-34.8	25	31.4
350	31	8,342	-30.9	-40.6	25	33.0
300	31	9,416	-38.6	-46.3	25	37.0
250	31	10,645	-47.2		26	38.0
200	31	12,094	-55.3		26	40.0
175	31	12,939	-58.2		26	36.1
150	31	13,902	-61.6		26	33.3
125	30	15,023	-65.5		25	28.2
100	30	16,368	-68.9		25	25.0
80	28	17,694	-70.1		25	18.1
70	27	18,487	-69.4		25	12.3
60	25	19,415	-66.3		24	7.4
50	25	20,530	-62.5		23	4.2
40	23	21,921	-59.3		31	1.7
30	20	23,742	-56.4		30	1.9
25	20	24,902	-55.4		28	2.4
20	19	26,331	-53.4		26	4.3
15	17	28,191	-49.7		27	9.9
10	[illegible]	30,880	-44.4			
7						

* COLD BAY, AK
1004 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	30	30	-1.2	-3.8	19	1.7
1000	20	120	-1.0	-4.9	23	1.5
950	30	446	-3.1	-6.7	23	3.1
900	30	892	-6.1	-9.0	24	4.9
850	30	1,338	-8.3	-12.0	24	7.2
800	30	1,806	-10.8	-16.0	25	9.2
750	30	2,300	-13.4	-19.2	25	11.1
700	30	2,822	-16.4	-22.8	25	12.1
650	30	3,377	-19.5	-27.6	25	14.6
600	30	3,968	-23.0	-31.0	25	17.0
550	30	4,600	-27.1	-32.7	25	17.9
500	30	5,281	-31.4	-36.4	25	20.5
450	30	6,019	-36.3	-38.7	25	23.5
400	30	6,826	-41.9	-43.6	25	25.2
350	30	7,722	-47.4		25	27.6
300	30	8,729	-51.2		26	[illegible]
250	30	9,909	-53.1		26	25.1
200	30	11,356	-50.3		25	21.8
175	29	12,237	-49.7		25	20.3
150	29	13,245	-49.7		25	18.9
125	29	14,437	-50.3		25	16.4
100	29	15,892	-51.1		25	14.9
80	26	17,337	-50.7		25	11.5
70	26	18,208	-50.7		25	8.2
60	26	19,212	-50.7		24	7.5
50	26	20,402	-49.9		23	4.5
40	25	21,859	-49.4		23	3.1
30	24	23,754	-48.6		15	2.1
25	23	24,956	-47.6		13	3.0
20	21	26,429	-46.3		12	3.9
15	13	28,329	-45.0		11	5.5
10						
7						

DAYTON, OH
980 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	299	3.6	-.3	20	2.7
1000						
950	31	548	4.8	-2.0	23	5.4
900	31	989	3.4	-4.3	24	9.0
850	31	1,451	1.4	-6.8	25	11.2
800	31	1,938	-.3	-11.4	26	11.4
750	31	2,452	-2.8	-14.3	26	11.6
700	31	2,996	-5.6	-18.6	27	12.6
650	31	3,573	-9.0	-21.2	27	14.6
600	31	4,189	-12.7	-23.7	27	17.5
550	31	4,848	-16.8	-27.8	27	19.6
500	31	5,557	-21.5	-32.9	27	23.0
450	31	6,326	-26.3	-37.1	26	26.0
400	31	7,169	-31.8	-42.2	26	29.2
350	31	8,103	-38.0	-45.8	26	32.2
300	29	9,149	-45.1		26	35.1
250	27	10,343	-51.4		26	37.9
200	25	11,774	-54.4		27	37.6
175	23	12,617	-54.3		27	33.5
150	21	13,607	-55.8		27	31.3
125	20	14,765	-58.2		27	29.2
100	20	16,164	-59.7		27	22.3
80	18	17,548	-61.0		27	16.8
70	17	18,383	-60.7		27	13.0
60	17	19,345	-60.0		28	8.7
50	17	20,484	-59.8		28	5.8
40	16	21,877	-59.3		28	5.0
30	15	23,690	-57.4		30	3.5
25	13	24,838	-56.9		31	3.4
20	13	26,256	-55.5		29	3.3
15	12	28,116	-53.0		26	8.9
10	10	30,748	-48.2			
7						

DEL RIO, TX
976 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	314	12.3	4.3	06	1.6
1000						
950	31	540	13.6	2.3	12	3.0
900	31	995	12.4	.1	16	3.6
850	31	1,473	10.9	-3.4	21	3.8
800	31	1,978	9.4	[illegible]	24	5.5
750	31	2,511	7.5	-9.7	24	7.6
700	31	3,076	4.9	-13.6	25	[illegible]
650	31	3,676	.9	-16.4	24	13.5
600	31	4,314	-3.5	-19.9	24	16.8
550	31	4,996	-7.8	[illegible]	25	21.1
500	31	5,731	-12.4	-27.5	25	[illegible]
450	31	6,528	-17.8	-31.1	25	27.6
400	31	7,399	-23.6	[illegible]	25	32.4
350	31	8,365	-30.4	-41.8	25	38.3
300	31	9,440	-38.4	-47.9	25	41.3
250	31	10,669	-47.5		26	45.5
200	31	12,111	-56.6		26	45.7
175	31	12,953	-59.2		26	42.2
150	31	13,913	-62.1		26	36.5
125	31	15,029	-66.2		26	33.1
100	31	16,370	-69.4		26	25.8
80	31	17,696	-71.1		25	17.5
70	30	18,487	-70.5		25	12.4
60	29	19,407	-67.4		25	7.2
50	28	20,522	-62.8		25	3.7
40	25	21,911	-60.2		28	[illegible]
30	24	23,718	-57.6		30	2.3
25	23	24,872	-56.3		30	4.4
20	22	26,298	-53.7		28	6.6
15	20	28,164	-50.7		27	8.7
10	17	30,851	-45.6		26	15.0
7	8	33,208	-41.1			

DENVER, CO
831 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	1,611	-1.3	-9.3	23	1.4
1000						
950						
900						
850						
800	31	1,911	.6	-12.9	26	2.9
750	31	2,427	-1.7	-16.3	28	5.0
700	31	2,972	-5.4	[illegible]	28	7.3
650	31	3,549	-9.6	-22.1	29	[illegible]
600	31	4,162	-13.9	-26.0	29	11.3
550	31	4,817	-18.6	-30.4	28	11.8
500	31	5,520	-23.8	-35.2	28	12.0
450	31	6,281	-29.2	-40.5	27	12.9
400	31	7,112	-35.4	-44.6	26	14.9
350	31	8,031	-42.3	-49.4	26	16.9
300	31	9,056	-48.8		26	20.4
250	31	10,242	[illegible]		26	23.5
200	31	11,674	-54.6		26	25.8
175	31	12,532	-53.4		26	25.6
150	31	13,523	-54.4		26	21.7
125	31	14,689	-55.7		26	20.5
100	31	16,101	-58.3		26	16.7
80	30	17,503	[illegible]		25	11.7
70	30	18,342	-58.8		25	8.7
60	30	19,308	-58.8		25	6.4
50	30	20,454	-58.6		25	[illegible]
40	30	21,857	-58.4		27	2.6
30	30	23,672	[illegible]		35	1.4
25	29	24,828	-56.5		01	2.4
20	29	26,249	-55.3		04	[illegible]
15	25	28,104	-52.8		02	4.5
10	16	30,770	-47.8		35	3.9
7	5	33,189	-42.1			

DODGE CITY, KS
919 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	791	2.0	-4.4	27	1.8
1000						
950						
900	30	963	4.7	-4.5	27	2.4
850	31	1,422	4.7	-8.2	27	5.8
800	31	1,915	2.8	-11.1	27	8.6
750	31	2,435	-.1	-14.4	27	11.1
700	31	2,983	-3.6	[illegible]	27	11.7
650	31	3,565	-7.2	[illegible]	27	12.3
600	31	4,184	-11.5	[illegible]	26	13.6
550	31	4,845	-16.1	[illegible]	26	15.5
500	31	5,556	-21.2	-33.3	26	18.8
450	31	6,325	-26.7	-38.5	25	22.0
400	31	7,164	-33.1	[illegible]	25	25.0
350	31	8,093	-39.3	[illegible]	25	29.4
300	31	9,132	-45.5		25	34.5
250	31	10,332	-51.2		25	35.5
200	31	11,773	-53.7		26	36.9
175	31	12,630	-53.9		26	34.6
150	31	13,616	-56.0		25	32.3
125	27	14,780	-58.5		26	28.4
100	27	16,173	-61.1		26	21.6
80	26	17,557	-61.6		26	14.5
70	26	18,383	-62.1		25	11.3
60	26	19,338	-60.8		25	7.4
50	25	20,475	-59.8		26	4.4
40	25	21,870	-59.3		27	2.6
30	24	23,682	-57.6		32	1.6
25	24	24,834	-57.0		33	1.5
20	19	26,242	-56.2		31	3.7
15	16	28,099	-53.1		30	3.7
10						
7						

EL PASO, TX
878 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	1,193	5.6	-10.3	27	1.7
1000						
950						
900						
850	31	1,464	8.5	-11.0	26	3.0
800	31	1,962	5.4	-12.2	25	6.1
750	31	2,486	2.2	-14.4	25	8.8
700	31	3,039	-1.6	-18.0	[illegible]	10.9
650	31	3,625	-4.9	-21.9	25	[illegible]
600	31	4,250	-8.9	-25.3	25	14.8
550	31	4,918	-13.3	-28.9	25	17.6
500	31	5,637	-18.0	-31.9	25	22.0
450	31	6,416	-23.2	-36.0	25	25.3
400	31	7,269	-29.1	-40.2	25	29.9
350	31	8,214	-34.9	-44.6	25	35.2
300	30	9,269	-41.7	-49.1	25	42.1
250	29	10,480	-48.5		26	45.5
200	29	11,930	-53.8		26	43.9
175	28	12,784	-55.7		25	39.8
150	26	13,763	-59.2		25	35.3
125	26	14,896	-62.7		26	31.7
100	26	16,261	-66.1		25	26.6
80	26	17,609	-67.2		25	19.4
70	26	18,419	-65.5		25	13.8
60	[illegible]	19,362	-64.1		25	7.1
50	21	20,482	-61.5		26	[illegible]
40	20	21,876	-59.8		26	2.4
30	19	23,677	-57.8		28	3.6
25	18	24,829	-56.2		29	3.8
20	[illegible]	26,253	-54.2		30	5.1
15	10	28,107	-51.0			
10						

ELY, NV
805 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	29	1,908	[illegible]	-18.7	24	1.8
1000						
950						
900						
850						
800	25	[illegible]	-4.6	-14.5	23	1.7
750	29	2,468	-5.2	-13.6	33	1.8
700	29	3,006	-8.7	[illegible]	32	3.8
650	29	3,577	-12.3	-21.6	31	5.9
600	29	4,185	-15.7	-26.4	31	7.7
550	29	4,835	-20.3	-30.4	31	8.5
500	29	5,534	-25.3	-34.9	29	9.7
450	29	6,291	-30.8	-40.1	29	10.1
400	29	7,117	-36.4	-43.2	30	11.6
350	29	8,034	-42.6	-45.0	29	13.4
300	29	9,059	-48.1		29	16.2
250	29	10,248	-52.7		28	19.4
200	28	11,684	-54.7		28	20.5
175	28	12,539	-54.6		27	20.5
150	28	13,527	-54.1		27	20.8
125	28	14,694	-55.5		27	18.5
100	27	16,103	-57.4		[illegible]	15.0
80	27	17,509	-56.1		26	12.1
70	27	18,350	-58.2		26	10.0
60	26	19,327	-57.6		26	[illegible]
50	26	20,479	-57.2		26	4.4
40	25	21,887	-57.6		26	3.2
30	25	23,710	-56.3		33	.8
25	23	24,870	-55.5		04	2.1
20	18	26,301	-53.9		06	4.5
15	15	28,158	-51.1		06	5.2
10	8	30,846	-47.6			

EMPALME, MEXICO
1011 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	12	13.3	2.4	33	1.7
1000	31	105	16.4	3.9	33	[illegible]
950	31	541	16.1	-.4	34	4.0
900	31	999	13.9	-4.4	31	2.7
850	31	1,478	11.2	-7.7	27	3.3
800	31	1,981	8.7	-10.7	26	5.0
750	31	2,512	6.3	-13.6	26	7.8
700	31	3,075	3.5	-16.0	26	[illegible]
650	31	3,672	-.1	-19.0	26	11.5
600	31	4,308	-4.0	-21.7	26	15.1
550	31	4,989	-8.1	[illegible]	26	18.7
500	31	5,722	-13.1	-27.4	26	23.4
450	31	6,518	-18.1	-31.3	26	[illegible]
400	31	7,387	-23.9	-36.3	25	31.2
350	31	8,352	-30.7	-40.8	25	35.1
300	31	9,426	-38.7	-45.3	26	41.1
250	31	10,655	-47.0		26	44.9
200	31	12,105	-55.3		26	45.6
175	31	12,953	-57.7		25	44.1
150	31	13,918	-61.1		26	[illegible]
125	31	15,042	-64.3		25	31.0
100	30	16,393	-67.3		25	24.3
80	29	17,732	-68.6		25	16.5
70	28	18,533	-68.3		25	12.4
60	25	19,461	-65.6		25	6.8
50	24	20,584	-61.2		26	4.6
40	21	21,982	-58.2		26	2.6
30	21	23,804	-55.7		28	1.5
25	19	24,970	-54.5		28	2.4
20	17	26,399	-52.6		26	4.9
15	15	28,263	-49.8		27	10.3
10						

* FAIRBANKS, AK
992 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	135	-17.1	-22.4	32	.8
1000	7	167	-15.1	-19.9		
950	31	464	-12.9	-17.2	25	.2
900	31	876	-12.9	-17.1	23	2.0
850	31	1,311	-14.2	-18.3	24	3.9
800	31	1,770	-16.0	-20.5	24	4.5
750	31	2,254	-18.4	-24.7	24	4.8
700	31	2,766	-21.3	-27.4	24	5.0
650	31	3,309	-24.3	-31.5	24	6.4
600	31	3,888	-28.0	-35.4	25	7.6
550	31	4,508	[illegible]	-39.1	25	9.3
500	31	5,176	-36.0	-42.4	25	9.7
450	30	5,898	-40.6	-42.7	25	11.8
400	30	6,692	-45.6		25	11.7
350	29	7,570	-51.0		24	13.0
300	28	8,557	-54.7		25	14.7
250	28	9,730	-51.8		25	13.4
200	28	11,188	-48.8		25	11.9
175	28	12,068	-47.7		25	12.8
150	28	13,087	-47.3		25	11.6
125	27	14,291	-47.4		25	11.3
100	27	15,769	-46.9		25	9.8
80	27	17,247	-47.1		25	8.7
70	27	18,131	-47.3		25	[illegible]
60	27	19,151	-47.5		25	8.2
50	25	20,353	-47.2		26	6.5
40	25	21,832	-46.8		25	6.6
30	24	23,749	-45.6		27	4.9
25	24	24,966	-45.3		27	4.3
20	21	26,448	-44.3		28	4.4
15	19	28,375	-42.4		32	4.5
10	10	31,129	-38.9			

FLINT, MI
985 MB

Pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m ps
SFC	31	236	.7	-3.6	20	1.6
1000						
950	31	528	2.1	-3.7	23	4.7
900	31	964	1.2	-6.3	25	6.6
850	31	1,422	-.8	-7.9	27	7.8
800	31	1,905	-3.0	-10.9	27	8.4
750	31	2,414	-5.2	-14.4	27	8.8
700	31	2,953	-8.1	-17.9	27	10.8
650	31	3,526	-11.0	-21.9	26	11.9
600	31	4,137	-14.6	-25.6	27	13.6
550	31	4,790	-18.9	[illegible]	27	15.9
500	31	5,493	-23.9	-35.0	27	17.1
450	31	6,255	-28.9	-40.9	27	19.6
400	31	7,087	-34.9	[illegible]	27	20.9
350	31	8,009	-41.5	[illegible]	27	25.0
300	31	9,038	-47.2		27	30.1
250	31	10,232	-51.8		27	34.5
200	31	11,671	-53.8		27	33.9
175	31	12,530	-53.1		27	30.5
150	30	13,521	-54.2		27	28.6
125	30	14,687	-55.7		27	25.5
100	30	16,105	-56.7		27	19.4
80	30	17,514	-58.2		27	16.5
70	30	18,355	-58.2		27	12.5
60	29	19,326	-58.6		27	8.7
50	29	20,472	-58.6		27	8.1
40	28	21,879	-58.1		27	5.7
30	28	23,696	-57.2		29	3.3
25	28	24,849	-57.2		28	2.4
20	26	26,257	-56.6		28	2.9
15	23	28,097	-54.6		28	3.8
10	12	30,732	-49.9			

RAWINSONDE DATA

Average monthly values

MARCH 1977

GLASGOW, MT 929 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	696	-3.5	-7.5	07	1.5
1000						
950						
900	31	948	-.3	-8.1	25	1.9
850	31	1,405	-.8	-11.9	29	5.0
800	31	1,887	-4.0	-13.8	29	6.0
750	31	2,393	-7.4	-16.4	29	7.0
700	31	2,926	-10.9	-20.5	29	7.9
650	31	3,492	-14.6	-24.1	29	8.2
600	30	4,095	-18.6	-28.2	29	9.1
550	30	4,738	-23.1	-32.9	28	9.8
500	30	5,429	-28.2	-38.4	28	10.1
450	30	6,177	-33.6	-41.7	27	12.3
400	30	6,992	-39.8	-44.8	27	13.6
350	30	7,895	-46.2		27	14.9
300	30	8,902	-52.5		28	14.9
250	29	10,073	-55.0		28	17.5
200	29	11,499	-54.5		27	15.3
175	29	12,358	-52.8		27	14.9
150	29	13,356	-51.5		27	14.4
125	29	14,540	-52.2		27	12.0
100	29	15,981	-53.8		27	10.7
80	29	17,414	-54.2		27	8.5
70	29	18,271	-54.2		28	7.2
60	29	19,259	-54.4		28	6.0
50	28	20,427	-54.3		29	4.0
40	28	21,859	-54.0		32	1.5
30	28	23,706	-53.8		04	2.9
25	27	24,882	-53.0		04	4.6
20	27	26,323	-52.5		05	7.5
15	24	28,192	-51.6		05	10.3
10	19	30,807	-50.0			
7						

GRAND JUNCTION, CO 848 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	1,472	.0	-10.9	13	.6
1000						
950						
900						
850	14	1,510	-.9	-12.9	11	2.0
800	31	1,937	.5	-12.5	20	1.6
750	31	2,452	-3.0	-14.6	24	3.1
700	31	2,994	-7.3	-16.8	26	5.2
650	31	3,567	-11.3	-19.7	26	6.3
600	31	4,176	-15.2	-23.9	26	8.0
550	31	4,828	-19.4	-29.2	26	10.2
500	31	5,530	-24.5	-34.3	26	11.7
450	31	6,289	-29.9	-38.8	26	13.3
400	31	7,118	-36.0	-44.4	26	16.1
350	31	8,035	-42.5	-48.8	26	18.7
300	31	9,059	-49.1		26	19.8
250	30	10,245	-52.0		26	22.5
200	30	11,684	-53.2		27	23.1
175	30	12,547	-52.4		26	22.8
150	30	13,542	-53.4		26	20.2
125	29	14,707	-55.3		26	19.7
100	29	16,123	-57.6		26	17.0
80	28	17,528	-58.8		26	12.5
70	28	18,366	-58.5		25	9.4
60	28	19,335	-58.8		25	6.4
50	26	20,487	-58.1		26	4.4
40	26	21,892	-57.9		27	2.5
30	24	23,709	-56.1		35	1.6
25	24	24,869	-56.0		03	1.8
20	24	26,294	-54.7		03	3.3
15	19	28,146	-52.1		02	4.0
10						
7						

* **GREAT FALLS, MT** 892 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	1,118	-1.7	-9.3	23	3.9
1000						
950						
900						
850	31	1,415	-.6	-10.5	25	6.8
800	31	1,897	-4.0	-12.3	26	7.2
750	31	2,403	-7.7	-14.7	27	7.2
700	31	2,936	-11.6	-17.1	28	8.0
650	31	3,500	-15.4	-21.7	28	8.4
600	31	4,100	-19.2	-26.4	28	9.0
550	31	4,741	-23.5	-31.3	28	9.5
500	31	5,431	-28.5	-36.1	28	10.4
450	31	6,179	-33.6	-40.7	27	11.1
400	31	6,995	-39.5	-42.8	27	12.6
350	31	7,897	-46.2		26	13.4
300	31	8,905	-53.0		27	14.7
250	31	10,070	-55.8		28	16.3
200	31	11,491	-55.0		27	14.6
175	31	12,349	-52.9		27	15.1
150	31	13,347	-51.9		27	12.4
125	31	14,526	-53.0		27	11.7
100	29	15,969	-53.0		27	10.7
80	29	17,403	-54.6		26	7.6
70	28	18,256	-54.7		27	6.5
60	28	19,243	-54.5		27	4.4
50	27	20,410	-54.3		27	3.4
40	27	21,840	-54.7		30	1.6
30	26	23,687	-53.3		06	3.4
25	21	24,874	-52.3		06	5.5
20	21	26,318	-52.5		05	7.2
15	19	28,183	-51.1		05	11.0
10	5	30,901	-48.4			
7						

GREEN BAY, WI 988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	210	.2	-2.6	29	.4
1000						
950	31	507	1.1	-4.0	25	1.6
900	31	942	.3	-6.0	25	3.9
850	31	1,399	-1.3	-8.6	26	5.2
800	31	1,880	-3.5	-11.1	26	6.3
750	31	2,388	-6.2	-13.8	26	7.6
700	31	2,925	-9.4	-17.7	27	9.4
650	31	3,495	-12.1	-21.7	26	9.8
600	31	4,103	-15.6	-25.9	27	11.0
550	31	4,754	-19.8	-30.6	27	12.0
500	31	5,455	-24.6	-35.1	27	13.1
450	31	6,214	-29.8	-37.4	27	14.2
400	31	7,043	-36.0	-43.2	27	16.9
350	31	7,960	-42.8	-43.6	26	19.1
300	31	8,982	-49.3		26	23.0
250	30	10,174	-53.4		26	29.6
200	29	11,608	-53.7		26	28.0
175	29	12,468	-53.2		26	26.4
150	29	13,461	-53.3		26	22.7
125	29	14,632	-54.5		26	21.1
100	29	16,056	-56.3		27	16.9
80	29	17,470	-57.4		26	14.3
70	29	18,314	-57.6		27	11.9
60	28	19,283	-58.0		27	8.3
50	28	20,432	-57.8		28	6.6
40	27	21,846	-57.7		28	4.4
30	27	23,664	-57.1		29	3.0
25	26	24,820	-57.0		32	2.2
20	24	26,233	-56.8		33	2.8
15	22	28,076	-54.6		33	2.6
10	18	30,741	-51.0		29	3.5
7	6	33,164	-45.8			

GREENSBORO, NC 985 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	275	7.1	2.8	22	1.0
1000						
950	31	575	9.1	-.7	26	3.3
900	31	1,022	7.5	-3.8	27	6.0
850	31	1,491	5.9	-6.2	27	8.1
800	31	1,986	4.0	-7.8	27	10.3
750	31	2,509	1.5	-11.4	27	12.5
700	31	3,062	-1.2	-15.0	27	14.4
650	31	3,650	-4.3	-17.7	27	17.3
600	31	4,276	-7.6	-22.1	27	21.0
550	31	4,948	-12.1	-26.1	27	23.4
500	31	5,670	-16.8	-28.7	27	26.2
450	31	6,453	-22.1	-33.6	27	29.3
400	31	7,309	-28.1	-38.7	27	30.9
350	31	[illegible]	-35.0	-42.4	27	33.6
300	31	9,313	-42.6	-49.8	28	36.5
250	31	10,521	-51.5		28	35.0
200	31	11,951	-56.7		28	38.1
175	31	12,795	-57.8		28	40.3
150	31	13,766	-58.9		28	34.5
125	31	14,903	-61.6		28	30.6
100	31	16,278	-63.8		28	22.3
80	31	17,640	-65.2		28	17.2
70	31	18,456	-63.9		28	11.7
60	31	19,402	-63.1		28	9.8
50	31	20,529	-61.3		29	5.6
40	30	21,919	-59.8		28	5.1
30	29	23,727	-57.0		27	2.8
25	29	24,887	-55.2		28	[illegible]
20	27	26,304	-54.4		27	5.7
15	24	28,171	-50.5		26	5.9
10	18	30,853	-45.3		25	19.6
7						

GUADALUPE IS., MEXICO 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	23	14.4	8.4	32	8.3
1000	31	150	12.9	5.5	32	9.8
950	31	579	9.8	2.0	32	7.6
900	31	1,026	7.8	-3.4	33	6.1
850	31	1,496	6.7	-12.0	33	5.9
800	31	1,993	6.0	-13.4	31	6.5
750	31	2,520	3.9	-16.3	30	7.5
700	31	3,077	1.5	-18.2	29	8.9
650	31	3,670	-2.0	-20.9	28	9.8
600	31	4,302	-6.1	-24.3	27	11.6
550	31	4,977	-10.4	-28.0	27	14.3
500	31	5,704	-15.5	-32.0	26	15.8
450	31	6,490	-21.0	-35.7	26	17.2
400	31	7,350	-27.3	-41.0	26	21.4
350	31	8,302	-33.6	-46.0	26	26.2
300	31	9,364	-41.2	-48.7	25	30.7
250	31	10,581	-49.2		25	38.5
200	31	12,021	-55.5		25	35.1
175	31	12,867	-58.2		26	34.4
150	30	13,825	-61.2		26	25.4
125	29	14,945	-64.1		26	24.7
100	28	16,299	-67.1		26	20.4
80	28	17,646	-66.9		25	13.5
70	27	18,457	-65.7		26	11.0
60	26	19,398	-64.0		25	8.3
50	26	20,521	-61.4		25	6.3
40	25	21,916	-58.8		28	2.1
30	23	23,732	-56.6		25	3.5
25	20	24,891	-54.9		25	2.3
20	16	26,314	-53.2		26	4.4
15	12	28,189	-49.4			
10						
7						

* **GUAM, MARIANA IS.** 1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	111	24.6	22.0	07	4.7
1000	18	122	24.8	21.9	07	5.7
950	31	563	21.8	19.1	07	11.5
900	31	1,032	18.9	14.6	08	11.7
850	31	1,522	16.4	10.9	08	10.6
800	31	2,036	14.0	5.9	08	9.6
750	31	2,579	11.8	-.6	08	8.8
700	31	3,154	9.7	-6.5	08	7.8
650	31	3,767	8.0	-11.9	07	7.2
600	31	4,424	4.8	-16.6	07	7.4
550	31	5,128	.9	-20.1	08	6.9
500	31	5,887	-3.9	-24.1	08	6.5
450	31	6,710	-9.2	-28.5	08	6.5
400	31	7,610	-15.3	-33.6	08	5.7
350	31	8,608	-22.5	-39.6	08	4.0
300	30	9,718	-31.0	-46.0	09	2.4
250	30	10,984	-41.0	-54.3	17	1.5
200	30	12,461	-53.4		18	3.9
175	30	13,307	-60.3		18	5.4
150	30	14,251	-67.9		17	6.1
125	30	15,325	-76.0		15	6.4
100	30	16,587	-83.2		12	8.5
80	27	17,828	-81.6		10	5.8
70	23	18,585	-77.4		10	4.1
60	23	19,479	-72.9		08	2.8
50	23	20,568	-66.0		10	4.6
40	23	21,935	-62.6		10	9.6
30	23	23,730	-57.7		09	16.8
25	23	24,890	-54.3		09	18.4
20	21	26,336	-49.6		09	19.4
15	19	28,243	-45.5		08	15.8
10	16	30,956	-42.8		08	11.2
7						

HILO, HI 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	10	20.1	17.0	28	.7
1000	31	161	20.0	16.4	07	1.1
950	31	602	16.9	14.5	09	4.4
900	31	1,062	13.6	11.6	09	5.4
850	31	1,541	10.5	7.6	09	4.9
800	31	2,045	7.6	4.5	09	4.9
750	31	2,575	5.2	-2.8	09	5.1
700	31	3,137	3.7	-11.3	09	5.0
650	31	3,736	1.5	-15.8	09	4.9
600	31	4,377	-1.6	-20.1	08	3.1
550	31	5,064	-5.9	-25.4	04	1.3
500	31	5,803	-10.8	-29.0	32	2.4
450	31	6,605	-16.3	-34.0	30	5.1
400	31	7,480	-23.0	-39.8	29	8.4
350	31	8,448	-29.8	-45.3	29	12.3
300	31	9,530	-35.9	-50.4	28	21.1
250	31	10,777	-43.3		28	28.2
200	31	12,249	-52.8		28	32.6
175	31	13,101	-57.8		28	32.0
150	31	14,061	-63.7		29	27.2
125	31	15,163	-69.9		29	23.3
100	31	16,473	-75.4		29	16.7
80	31	17,757	-76.8		29	7.3
70	31	18,532	-73.3		29	2.8
60	31	19,445	-68.4		28	1.1
50	31	20,553	-63.7		08	2.5
40	31	21,934	-60.1		08	4.4
30	31	23,745	-56.2		09	8.1
25	30	24,911	-54.3		09	9.6
20	28	26,351	-50.7		08	9.8
15	26	28,247	-47.6		10	8.2
10	18	30,938	-46.3		10	4.4
7	6	33,295	-42.4			

HUNTINGTON, WV 987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	246	5.7	-1.9	23	1.1
1000						
950	31	560	7.3	-2.1	23	5.1
900	31	1,004	5.0	-4.4	25	8.5
850	31	1,468	2.5	-7.3	26	10.5
800	31	1,957	.5	-11.9	26	12.0
750	31	2,473	-1.5	-15.4	26	13.4
700	31	3,020	-4.4	-18.1	26	14.9
650	31	3,600	-7.2	-20.0	27	16.5
600	31	4,220	-10.8	-23.1	27	19.7
550	31	4,884	-14.7	-26.6	27	22.0
500	31	5,600	-18.9	-30.9	27	25.9
450	31	6,377	-23.8	-35.3	27	28.5
400	31	7,228	-29.7	-39.8	26	31.4
350	30	8,182	-36.1	-44.5	26	35.2
300	30	9,233	-43.6	-49.4	27	40.4
250	29	10,446	-50.5		27	42.2
200	28	11,881	-55.3		27	39.4
175	28	12,731	-56.4		27	37.1
150	28	13,707	-57.6		28	34.0
125	28	14,855	-59.4		28	29.4
100	26	16,248	-61.5		28	20.8
80	26	17,626	-62.7		27	15.8
70	25	18,455	-61.7		28	11.3
60	25	19,412	-61.2		27	9.3
50	24	20,548	-60.0		28	7.1
40	23	21,946	-59.3		29	4.8
30	22	23,757	-57.0		32	1.5
25	22	24,915	-55.7		28	3.7
20	22	26,343	-54.0		27	4.0
15	21	28,195	-51.4		26	9.2
10	11	30,869	-45.6			
7						

* **INTERNATIONAL FALLS, MN** 968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	359	-4.5	-7.9	07	.5
1000						
950	31	509	-2.7	-6.5	08	.7
900	31	938	-3.1	-8.4	33	.0
850	31	1,390	-4.2	-10.9	27	1.5
800	31	1,867	-5.8	-14.7	29	2.7
750	31	2,371	-8.2	-17.0	29	3.5
700	31	2,904	-11.1	-20.8	29	4.8
650	31	3,470	-14.0	-24.2	29	6.3
600	31	4,073	-17.9	-27.1	28	7.5
550	31	4,718	-22.2	-31.5	28	8.7
500	31	5,412	-27.0	-35.2	28	9.9
450	31	6,164	-32.2	-40.5	28	11.0
400	31	6,985	-38.4	-44.9	27	12.3
350	31	7,893	-44.9		27	13.8
300	31	8,904	-51.8		26	15.6
250	31	10,076	-55.2		27	18.9
200	31	11,504	-53.2		26	17.4
175	31	12,367	-52.0		26	17.2
150	31	13,368	-51.6		26	15.6
125	30	14,552	-52.5		27	15.0
100	29	15,984	-53.6		27	11.9
80	29	17,415	-54.4		27	11.0
70	29	18,270	-54.5		27	9.0
60	29	19,257	-54.9		27	7.5
50	28	20,425	-55.2		28	5.4
40	27	21,848	-55.4		30	3.1
30	26	23,684	-55.0		35	3.2
25	26	24,848	-55.3		01	4.0
20	26	26,273	-55.0		01	6.1
15	21	28,102	-54.5		01	8.7
10	14	30,699	-52.4		35	9.5
7						

* **ISLE DEL CISNE** 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	10	25.3	21.9	10	4.5
1000	31	115	25.2	21.0	10	5.3
950	31	564	21.6	18.2	11	7.4
900	31	1,032	18.4	13.0	11	8.9
850	31	1,520	15.3	9.1	11	9.9
800	31	2,033	13.2	2.8	11	9.1
750	31	2,574	11.9	-5.7	10	7.4
700	31	3,150	10.3	-12.0	10	6.1
650	31	3,763	7.9	-12.9	10	6.1
600	31	4,418	4.5	-16.7	10	5.7
550	31	5,122	.4	-19.8	09	5.3
500	31	5,879	-4.7	-24.4	08	4.7
450	31	6,699	-10.3	-29.4	07	3.5
400	31	7,594	-17.6	-35.4	07	3.4
350	31	8,582	-25.0	-41.7	36	2.4
300	31	9,678	-34.2	-49.4	33	4.0
250	31	10,928	-43.9		32	6.7
200	31	12,390	-55.1		31	8.1
175	31	13,232	-60.6		30	9.8
150	31	14,179	-66.3		29	9.7
125	30	15,271	-71.2		28	7.8
100	27	16,574	-76.8		29	3.2
80	27	17,850	-78.3		06	2.6
70	27	18,615	-76.6		08	4.7
60	26	19,511	-72.4		08	4.8
50	25	20,605	-64.5		08	5.5
40	24	21,983	-60.0		08	6.6
30	23	23,794	-56.1		08	10.0
25	21	24,959	-53.4		08	12.1
20	19	26,417	-48.7		08	13.5
15	18	28,322	-45.4		10	15.1
10	15	31,029	-42.3		10	9.5
7						

JACKSON, MS 1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	100	11.0	6.7	14	.2
1000	23	153	11.3	4.2	07	.8
950	31	562	12.2	1.6	21	1.9
900	31	1,014	10.8	.2	23	5.0
850	31	1,489	8.4	-1.8	24	7.6
800	31	1,989	7.2	-5.0	25	9.3
750	31	2,519	5.4	-8.1	25	11.4
700	31	3,080	2.9	-12.1	25	13.9
650	31	3,677	-.3	-16.6	25	17.3
600	31	4,313	-3.9	-19.3	25	20.5
550	31	4,994	-8.7	-23.3	25	23.0
500	31	5,725	-13.8	-26.7	25	26.2
450	31	6,518	-18.8	-31.6	25	28.7
400	31	7,385	-24.8	-35.8	26	33.7
350	31	8,346	-31.6	-42.0	26	39.9
300	31	9,417	-39.4	-47.2	26	44.5
250	31	10,641	-48.4		26	50.0
200	31	12,080	-56.8		27	50.9
175	31	12,921	-59.4		27	47.8
150	31	13,882	-61.6		27	43.2
125	31	15,004	-64.7		27	35.8
100	31	16,353	-68.5		26	26.1
80	31	17,687	-69.4		26	20.1
70	29	18,485	-69.3		26	15.8
60	29	19,412	-66.4		27	10.1
50	28	20,523	-63.0		26	5.1
40	28	21,904	-60.8		27	5.0
30	27	23,704	-58.3		29	3.9
25	27	24,856	-56.5		29	4.3
20	27	26,280	-54.2		27	5.9
15	27	28,141	-50.6		26	9.6
10	24	30,821	-45.0		25	18.4
7	10	33,214	-41.5			

JOHN F. KENNEDY INT. AP NY 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	5	4.5	-1.3	30	1.8
1000	30	136	4.7	-1.7	29	3.1
950	31	549	3.7	-3.2	29	5.4
900	31	986	1.4	-4.6	30	6.9
850	31	1,445	-.2	-8.3	30	8.3
800	31	1,929	-1.8	-12.5	30	10.5
750	31	2,441	-3.8	-15.4	29	11.9
700	30	2,983	-6.6	-19.0	28	12.6
650	30	3,559	-9.8	-20.8	28	14.9
600	30	4,173	-13.3	-23.8	28	16.8
550	30	4,831	-17.2	-27.9	28	19.2
500	30	5,539	-21.7	-31.4	28	22.1
450	30	6,307	-26.8	-35.9	28	25.6
400	30	7,147	-32.7	-40.9	28	28.6
350	30	8,078	-38.9	-43.3	28	34.0
300	30	9,118	-45.3		28	38.8
250	30	10,319	-50.8		28	44.2
200	29	11,768	-53.0		28	43.3
175	28	12,637	-54.4		28	38.7
150	28	13,623	-55.0		28	34.7
125	27	14,781	-57.1		28	29.2
100	27	16,181	-58.9		28	27.6
80	26	17,384	-59.8		28	17.3
70	26	18,419	-60.0		28	13.8
60	26	19,381	-60.1		29	10.2
50	25	20,520	-59.4		29	6.8
40	25	21,921	-58.3		29	5.8
30	24	23,732	-57.5		32	3.2
25	24	24,887	-56.5		29	2.7
20	23	26,304	-55.9		28	3.6
15	20	28,149	-53.3		27	8.3
10	9	30,710	-49.8			
7						

JOHNSTON IS., PACIFIC AREA 1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	3	24.4	20.3	08	7.2
1000	31	126	23.0	18.5	08	7.7
950	31	572	19.1	16.6	08	8.6
900	31	1,035	16.0	12.7	08	8.7
850	31	1,519	13.0	9.1	08	7.6
800	31	2,028	10.8	2.3	08	6.3
750	31	2,565	9.9	-5.8	09	4.8
700	31	3,136	7.3	-11.0	08	4.3
650	31	3,743	4.7	-14.3	06	3.4
600	31	4,391	.9	-16.3	03	2.3
550	31	5,085	-2.6	-21.2	35	2.7
500	31	5,834	-7.2	-24.7	33	5.8
450	31	6,648	-12.0	-29.8	31	8.8
400	31	7,540	-17.6	-35.0	30	12.1
350	31	8,530	-24.1	-40.5	29	16.3
300	31	9,635	-31.8	-46.5	28	23.1
250	31	10,899	-41.0	-53.7	28	28.2
200	31	12,379	-52.4		28	30.0
175	31	13,230	-59.0		28	28.7
150	31	14,181	-66.1		28	25.8
125	31	15,266	-73.4		29	20.9
100	31	16,550	-79.3		29	11.7
80	31	17,807	-80.8		32	3.5
70	31	18,568	-76.5		04	.9
60	30	19,469	-70.1		09	1.6
50	30	20,568	-64.7		09	3.4
40	29	21,946	-60.2		09	6.7
30	29	23,754	-57.2		09	12.2
25	28	24,915	-54.1		09	13.9
20	27	26,361	-50.7		08	15.4
15	22	28,256	-46.8		09	14.9
10	20	30,951	-45.9		19	9.2
7	12	33,337	-40.2		17	5.8

KEY WEST, FL 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	3	22.4	19.3	10	3.1
1000	31	149	21.8	18.4	11	4.8
950	31	593	19.1	15.3	12	5.8
900	31	1,057	16.6	11.6	14	3.9
850	31	1,543	15.3	4.5	16	3.1
800	31	2,055	13.4	-1.5	19	2.9
750	31	2,596	11.1	-7.8	21	2.4
700	31	3,168	8.1	-11.2	23	2.3
650	31	3,777	5.5	-14.5	24	2.9
600	31	4,427	1.9	-18.2	27	4.7
550	31	5,123	-2.2	-21.8	28	7.2
500	31	5,873	-7.3	-25.0	28	9.6
450	30	6,689	-12.8	-29.2	28	11.4
400	30	7,575	-19.5	-35.3	28	13.9
350	29	8,557	-27.1	-41.9	28	15.6
300	29	9,645	-35.7	-49.5	28	16.2
250	29	10,887	-45.6		29	17.8
200	29	12,337	-56.6		29	20.1
175	29	13,174	-61.5		29	21.6
150	29	14,121	-65.1		28	20.9
125	29	15,222	-68.9		28	17.9
100	29	16,543	-72.9		28	12.1
80	29	17,842	-75.0		28	6.9
70	28	18,620	-73.7		28	3.1
60	28	19,530	-69.8		35	1.0
50	28	20,629	-64.1		04	2.3
40	28	22,012	-59.3		04	3.3
30	28	23,634	-55.1		05	2.6
25	28	25,005	-52.6		07	3.1
20	26	26,457	-48.9		08	2.7
15	25	28,364	-44.6		12	2.2
10	17	[illegible]	-41.9		19	2.5
7						

RAWINSONDE DATA

Average monthly values

MARCH 1977

KING SALMON, AK
1002 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	27	15	-7.8	-11.1	08	.6
1000	15	112	-5.8	-8.5	05	1.1
950	27	435	-6.4	-10.[illegible]	25	1.3
900	27	857	-7.9	-11.6	24	3.6
850	27	1,299	-9.7	-14.1	25	6.[illegible]
800	27	1,766	-12.[illegible]	-17.8	25	6.8
750	27	2,257	-14.9	-20.3	25	7.5
700	27	2,776	-18.2	-22.9	26	8.2
650	27	3,326	-21.2	-26.8	26	9.9
600	27	3,9[illegible]3	-24.9	-30.2	26	11.9
550	27	4,541	-28.6	-33.[illegible]	26	14.5
500	27	5,217	-33.3	-37.2	26	15.5
450	27	5,950	-38.[illegible]	-38.7	26	18.0
400	27	6,752	-43.4	-42.4	26	19.1
350	27	7,642	-48.[illegible]		26	19.7
300	27	8,644	-51.9		25	16.5
250	27	9,825	-51.7		26	17.5
200	27	11,279	-49.5		25	15.8
175	27	12,155	-49.2		25	15.5
150	27	13,167	-49.0		26	15.4
125	27	14,365	-48.5		25	14.1
100	27	15,834	-48.4		24	11.9
80	27	17,300	-48.8		25	11.4
70	27	18,179	-48.6		25	7.9
60	27	19,192	-49.3		24	6.0
50	27	20,389	-48.8		24	4.1
40	26	21,85[illegible]	-48.3		23	2.2
30	25	23,748	-47.0		12	.9
25	25	24,959	-46.3		09	1.8
20	21	26,448	-45.2		11	2.3
15	16	28,370	-43.6		11	2.9
10						
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KOROR, CAROLINE IS.
1005 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	30	27.4	23.7	05	3.6
1000	31	103	26.1	22.9	06	4.6
950	31	554	22.6	20.7	06	8.1
900	31	1,024	19.6	16.4	07	9.4
850	31	1,515	16.9	11.0	07	9.[illegible]
800	31	2,032	14.9	6.3	07	7.3
750	31	2,576	12.6	1.2	07	5.5
700	31	3,153	10.0	-4.5	07	4.7
650	31	3,766	7.5	-8.3	08	4.5
600	31	4,421	4.0	-12.2	08	6.5
550	31	5,124	.0	-15.5	08	8.2
500	31	5,881	-4.4	-20.5	09	10.3
450	31	6,703	-9.2	-24.8	09	11.2
400	31	7,605	-14.8	-29.5	09	10.9
350	31	8,605	-21.8	-36.6	09	9.2
300	31	9,718	-30.3	-44.3	10	8.7
250	31	10,988	-40.4	-51.4	11	10.3
200	31	12,469	-52.7		12	11.8
175	31	13,318	-59.8		11	13.0
150	31	14,263	-67.8		12	15.8
125	31	15,339	-75.5		11	16.0
100	31	16,610	-80.6		10	13.9
80	29	17,865	-79.4		08	5.1
70	29	18,632	-74.8		08	1.2
60	29	19,539	-70.5		08	.2
50	27	20,633	-66.2		09	4.6
40	27	22,000	-61.9		09	15.5
30	26	23,806	-55.9		09	23.9
25	26	24,972	-53.7		09	25.6
20	24	26,415	-49.8		09	29.2
15	21	28,328	-45.1		09	27.3
10	19	31,076	-39.0		09	11.5
7	13	33,555	-33.7			

KOTZEBUE, AK
1011 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	27	5	-26.0	-29.4	09	1.0
1000	24	98	-24.1	-27.5	09	.8
950	27	462	-20.7	-24.2	12	1.5
900	27	862	-20.0	-24.4	12	1.7
850	27	1,28[illegible]	-19.5	-24.9	11	1.7
800	27	1,[illegible]73	-20.3	-27.1	14	1.2
750	27	2,213	-22.0	-29.6	19	2.0
700	27	2,718	-24.3	-31.9	20	3.2
650	27	3,256	-27.0	-33.9	21	4.2
600	27	3,829	-30.6	-37.[illegible]	21	5.3
550	27	4,443	-34.4	-42.0	21	5.6
500	27	5,103	-38.6	-46.2	21	7.0
450	27	5,820	-43.2	-48.[illegible]	22	8.2
400	26	6,611	-47.6		22	9.4
350	26	7,486	-52.2		22	10.4
300	26	8,476	-54.0		23	11.0
250	26	9,654	-50.7		23	9.4
200	26	11,11[illegible]	-48.2		23	9.4
175	26	11,998	-47.7		24	10.3
150	26	13,018	-47.2		24	10.3
125	26	14,226	-46.9		24	10.5
100	26	15,70[illegible]	-46.6		24	10.1
80	26	17,188	-46.7		24	9.8
70	26	18,074	-46.5		24	9.9
60	26	19,097	-46.9		25	9.5
50	26	20,304	-47.0		25	9.3
40	25	21,779	-46.6		25	8.8
30	24	23,705	-46.0		25	8.2
25	24	24,920	-45.5		26	8.0
20	23	26,407	-44.4		27	6.9
15	17	28,358	-42.7		26	5.2
10	6	31,089	-38.3			
7						

LAKE CHARLES, LA
1015 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	5	13.3	9.8	08	1.0
1000	31	128	14.5	9.5	12	1.5
950	31	561	13.5	5.2	16	3.0
900	31	1,016	11.9	.6	20	4.3
850	31	1,494	10.9	-2.5	22	6.2
800	31	1,998	9.9	-7.0	23	8.1
750	31	2,532	7.5	-8.8	23	10.0
700	31	3,097	4.6	-12.5	24	12.3
650	31	3,697	1.2	-15.8	24	15.7
600	31	4,337	-2.6	-18.8	24	19.4
550	31	5,021	-7.3	-22.9	25	22.4
500	31	5,756	-12.7	-27.5	25	24.4
450	31	6,552	-17.6	-30.8	25	27.8
400	31	7,424	-23.7	-35.3	25	31.5
350	31	8,389	-30.3	-42.5	26	35.9
300	31	9,465	-38.3	-48.1	26	41.6
250	31	10,694	-47.7		26	44.3
200	31	12,135	-57.2		26	44.3
175	31	12,973	-60.0		27	40.0
150	31	13,930	-62.7		26	38.2
125	28	15,053	-66.3		26	31.7
100	28	16,391	-70.0		26	25.[illegible]
80	27	17,714	-71.9		26	15.2
70	27	18,502	-71.6		25	11.9
60	27	19,421	-67.7		25	7.3
50	27	20,529	-63.8		26	4.1
40	27	21,910	-60.3		27	2.0
30	27	23,715	-57.8		31	3.8
25	27	24,870	-55.9		29	5.5
20	27	26,301	-53.0		27	6.8
15	26	28,166	-49.7		27	10.[illegible]
10	25	30,855	-43.9		26	20.8
7	11	33,241	-41.8			

LANDER, WY
823 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	1,697	-4.4	-10.4	34	.4
1000						
950						
900						
850						
800	31	1,918	-2.7	-11.6	33	1.1
750	31	2,427	-5.5	-14.2	32	3.3
700	31	2,965	-9.1	-16.9	31	5.3
650	31	3,534	-13.0	-20.1	29	7.1
600	31	4,140	-16.9	-24.7	28	8.7
550	31	4,788	-20.8	-28.9	27	9.2
500	31	5,486	-25.7	-34.1	26	10.0
450	31	6,241	-31.0	-39.3	26	11.5
400	31	7,066	-37.3	-43.3	26	12.4
350	31	7,977	-44.5		26	13.4
300	31	8,989	-51.7		27	17.1
250	31	10,161	-54.8		27	18.6
200	31	11,586	-55.2		27	19.6
175	31	12,443	-53.1		26	20.4
150	31	13,437	-52.9		26	19.7
125	30	14,609	-53.8		26	18.0
100	29	16,034	-56.2		26	15.4
80	29	17,448	-56.8		26	12.8
70	29	18,295	-56.4		26	9.7
60	29	19,273	-56.7		25	7.9
50	28	20,429	-56.6		25	5.0
40	27	21,842	-56.8		27	.5
30	26	23,669	-56.0		06	3.4
25	25	24,829	-55.2		04	4.2
20	23	26,264	-54.1		06	7.1
15	20	28,116	-52.4		05	9.6
10	8	30,741	-50.3			
7						

* LIHUE KAUAI, HI
1015 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	36	21.9	18.1	07	6.1
1000	31	167	21.1	16.5	07	7.5
950	31	609	17.3	14.8	08	8.6
900	31	1,069	13.[illegible]	11.1	08	8.8
850	31	1,549	10.7	7.[illegible]	09	8.1
800	31	2,052	8.3	.7	09	7.9
750	31	2,585	7.3	-7.5	10	7.5
700	31	3,150	5.2	-12.0	10	[illegible].9
650	31	3,752	2.3	-18.2	10	5.8
600	31	4,394	-1.4	-20.6	10	3.4
550	31	5,081	-5.9	-24.3	11	1.7
500	31	5,820	-11.1	-29.5	34	1.2
450	31	6,620	-16.8	-34.2	31	2.6
400	31	7,493	-23.6	-39.[illegible]	29	5.0
350	31	8,459	-30.4	-45.4	29	9.4
300	31	9,535	-37.7	-50.[illegible]	29	15.6
250	31	10,775	-44.1	-53.[illegible]	28	24.4
200	31	12,245	-52.2		29	28.4
175	31	13,099	-57.3		29	28.6
150	31	14,061	-62.[illegible]		29	25.2
125	31	15,169	-68.8		29	21.1
100	31	16,485	-74.3		29	15.6
80	29	17,776	-75.3		30	6.6
70	29	18,555	-72.3		29	2.7
60	29	19,472	-68.2		30	1.1
50	28	20,580	-63.4		08	2.0
40	28	21,963	-59.9		09	3.9
30	28	23,776	-56.2		08	3.2
25	27	24,945	-53.2		08	4.3
20	25	26,391	-51.4		07	4.[illegible]
15	24	28,271	-48.1		08	3.7
10	22	30,959	-46.7		17	2.5
7	12	33,356	-41.2			

LITTLE ROCK, AR
995 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	79	9.9	3.2	21	1.1
1000	12	199	7.4	-2.9	31	1.0
950	31	559	10.3	-.3	24	4.5
900	31	1,008	8.6	-2.8	25	7.3
850	31	1,479	7.0	-6.1	25	8.9
800	31	1,976	4.6	-9.5	26	10.4
750	31	2,499	2.1	-12.8	25	12.3
700	31	3,053	-.6	-16.1	26	14.5
650	31	3,642	-3.7	-18.6	26	16.9
600	31	4,270	-7.5	-22.6	26	19.7
550	31	4,942	-11.6	-26.4	25	22.6
500	31	5,665	-16.6	-29.0	25	25.8
450	31	6,449	-21.8	-33.8	25	29.4
400	31	7,306	-27.9	-39.6	25	32.2
350	31	8,255	-34.6	-44.9	26	36.9
300	31	9,312	-42.2	-46.9	26	41.2
250	31	10,524	-50.2		26	48.1
200	31	11,961	-55.4		26	50.8
175	31	12,809	-57.0		26	45.9
150	31	13,781	-58.6		26	41.7
125	31	14,919	-61.9		26	35.[illegible]
100	31	16,288	-65.3		26	25.9
80	31	17,641	-66.4		26	19.5
70	30	18,455	-65.5		26	14.6
60	30	19,395	-64.6		26	10.1
50	30	20,517	-61.9		27	5.7
40	30	21,905	-59.9		27	4.7
30	29	23,710	-58.2		30	3.3
25	29	24,863	-56.7		30	3.1
20	26	26,285	-54.7		27	4.3
15	23	28,151	-51.3		26	7.4
10	19	30,819	-45.2		26	16.2
7	5	33,149	-43.0			

LONGVIEW, TX
1002 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	124	10.6	5.5	19	1.2
1000	17	182	10.6	2.0	13	.7
950	31	568	12.3	1.8	21	4.4
900	31	1,020	10.7	-1.4	22	6.6
850	31	1,495	9.1	-5.5	23	7.3
800	31	1,995	6.6	-9.[illegible]	24	7.3
750	31	2,523	4.4	-12.7	25	9.3
700	31	3,082	1.4	-15.[illegible]	25	11.7
650	31	3,675	-1.6	-19.4	25	14.4
600	31	4,308	-5.2	-21.4	25	18.9
550	31	4,985	-9.9	-23.[illegible]	25	22.9
500	31	5,714	-15.0	-29.2	25	27.8
450	31	6,503	-20.0	-31.4	25	30.1
400	31	7,366	-26.0	-37.1	25	32.2
350	31	8,324	-32.4	-43.3	26	37.3
300	31	9,390	-40.2	-47.[illegible]	26	43.6
250	31	10,611	-48.6		26	49.5
200	31	12,052	-56.3		27	49.8
175	31	12,895	-58.4		27	44.3
150	31	13,860	-61.0		26	41.6
125	31	14,985	-64.2		27	36.7
100	31	16,343	-66.7		26	25.5
80	30	17,684	-69.1		26	20.3
70	30	18,483	-68.2		26	12.9
60	30	19,414	-65.5		26	6.7
50	29	20,533	-62.2		26	6.4
40	29	21,920	-60.6		29	3.2
30	28	23,723	-58.0		30	4.5
25	27	24,878	-56.3		29	4.5
20	22	26,304	-53.6		27	6.0
15	19	28,170	-49.9		27	10.6
10	13	30,859	-44.0		26	20.2
7	5	33,242	-41.3			

MCGRATH, AK
996 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	103	-19.2	-22.8	24	.5
1000	13	149	-14.4	-20.0	25	1.1
950	31	457	-15.4	-18.4	17	.5
900	31	866	-14.4	-18.1	21	1.8
850	31	1,300	-14.5	-18.6	22	4.0
800	31	1,759	-15.9	-21.5	23	5.4
750	31	2,244	-18.4	-24.0	23	6.1
700	31	2,757	-21.3	-26.6	23	7.[illegible]
650	30	3,298	-24.3	-29.9	23	7.9
600	30	3,877	-28.0	-34.1	23	[illegible].5
550	30	4,497	-31.9	-37.6	24	8.8
500	30	5,164	-36.5	-42.1	24	10.2
450	30	5,887	-41.1	-43.4	24	10.4
400	30	6,679	-46.2		24	11.1
350	30	7,560	-50.7		24	12.7
300	30	8,555	-53.6		25	14.5
250	30	9,731	-51.1		25	14.5
200	30	11,193	-48.5		25	13.4
175	30	12,073	-47.8		24	13.2
150	30	13,092	-47.5		25	12.7
125	29	14,298	-47.2		25	11.3
100	29	15,776	-47.3		24	10.[illegible]
80	29	17,252	-47.4		24	9.[illegible]
70	29	18,135	-47.5		25	8.0
60	29	19,153	-47.7		24	6.9
50	29	20,357	-47.8		24	6.7
40	29	21,833	-47.1		24	5.7
30	29	23,743	-46.0		25	4.3
25	29	24,957	-45.[illegible]		25	3.1
20	27	26,446	-44.8		26	2.5
15	24	28,379	-43.3		33	2.1
10	6	31,126	-41.5			
7						

+ MAJURO, MARSHALL IS.
1010 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	3	28.9	23.9	07	6.4
1000	31	94	27.0	22.1	07	7.6
950	31	547	23.4	20.[illegible]	07	10.1
900	31	1,018	20.6	16.4	07	9.4
850	31	1,511	17.9	12.4	08	7.5
800	31	2,030	15.9	7.5	09	4.6
750	31	2,577	13.7	[illegible].2	09	3.3
700	31	3,155	10.9	-1.3	10	1.4
650	31	3,770	7.7	-4.4	13	1.5
600	31	4,426	4.2	-8.0	13	1.7
550	31	5,130	.5	-13.7	12	1.9
500	31	5,889	-3.4	-18.[illegible]	12	2.6
450	31	6,715	-8.0	-23.5	12	2.4
400	31	7,622	-13.3	-29.[illegible]	11	1.5
350	31	[illegible],629	-19.7	-36.6	11	.7
300	31	9,751	-28.2	-43.7	23	1.4
250	31	11,031	-38.9	-52.3	19	4.4
200	31	12,521	-51.6		18	6.5
175	31	13,375	-58.3		19	5.5
150	31	14,327	-66.1		17	4.5
125	31	15,410	-74.6		12	2.8
100	31	16,680	-82.3		07	7.3
80	31	17,925	-80.9		08	4.0
70	31	18,690	-74.4		28	1.2
60	29	19,599	-69.6		27	2.3
50	28	20,700	-65.0		10	5.4
40	28	22,071	-62.0		09	16.1
30	28	23,874	-56.0		09	25.7
25	28	25,043	-52.8		09	27.2
20	27	2[illegible],498	-48.7		09	27.9
15	24	28,409	-43.4		09	25.9
10	19	31,177	-38.4		09	6.9
7	5	33,653	-33.2			

* MEDFORD, OR
972 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	401	2.2	.3	02	.3
1000						
950	31	590	3.5	-.2	28	1.1
900	31	1,028	1.6	-2.4	26	2.0
850	31	1,486	-1.2	-5.8	27	2.9
800	31	1,967	-4.0	-9.7	29	3.9
750	31	2,474	-7.1	-11.3	30	5.6
700	31	3,009	-10.1	-17.7	30	7.7
650	31	3,577	-13.4	-23.9	30	9.3
600	31	4,182	-16.9	-27.3	30	11.7
550	31	4,831	-20.8	-31.2	31	12.8
500	31	5,529	-25.7	-35.2	31	14.3
450	30	6,278	-31.2	-39.3	30	16.0
400	30	7,103	-37.1	-44.6	30	17.5
350	30	8,016	-43.7		31	1[illegible].0
300	30	9,034	-50.2		31	21.2
250	30	10,2[illegible]	-55.1		31	22.9
200	30	11,630	-56.1		30	22.3
175	30	12,483	-54.4		29	19.7
150	30	13,472	-54.4		29	20.1
125	30	14,638	-55.4		29	15.9
100	30	16,053	-57.4		28	14.1
80	30	17,464	-56.9		28	10.1
70	29	18,311	-57.0		28	7.6
60	28	19,286	-56.7		28	4.3
50	27	20,443	-56.6		3[illegible]	2.6
40	27	21,861	-56.1		30	.8
30	26	23,698	-54.5		05	2.7
25	23	24,856	-53.7		06	4.5
20	21	26,298	-52.6		06	6.3
15	1[illegible]	28,169	-50.6		06	9.8
10						
7						

MERIDA, MEXICO
1012 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	11	21.3	20.2	10	1.4
1000	31	111	21.9	20.2	11	4.3
950	31	557	20.2	15.3	13	11.5
900	31	1,023	18.7	10.2	14	9.7
850	31	1,513	17.1	5.0	14	6.2
800	31	2,029	15.2	-1.1	15	3.6
750	31	2,573	12.9	-4.5	14	3.8
700	31	3,150	10.[illegible]	-8.8	15	3.5
650	30	3,764	7.7	-13.3	15	3.3
600	30	4,419	4.0	-17.1	17	2.1
550	30	5,121	-.7	-21.1	22	1.7
500	30	5,874	-6.1	-25.7	24	3.7
450	30	6,690	-11.8	-30.1	23	5.0
400	30	7,579	-18.5	-36.0	24	6.3
350	30	8,563	-26.0	-41.8	25	7.0
300	[illegible]	9,657	-34.9	-49.3	27	8.0
250	30	10,902	-45.1		28	9.9
200	30	12,356	-55.8		28	14.7
175	30	13,197	-60.8		28	16.2
150	30	14,142	-66.5		28	15.4
125	30	15,234	-70.8		27	12.2
100	29	16,544	-75.9		26	7.2
80	29	17,824	-78.0		24	3.5
70	29	18,590	-76.4		12	.7
60	29	19,486	-72.9		10	3.7
50	29	20,575	-65.0		10	4.3
40	29	21,954	-59.5		08	4.0
30	28	23,773	-55.7		07	6.6
25	28	24,941	-53.1		07	8.3
20	26	26,401	-48.7		08	8.0
15	24	28,307	-44.9		10	6.9
10	12	31,029	-43.8			
7						

MIDLAND, TX
913 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	874	6.1	-3.8	22	1.1
1000						
950						
900	30	992	9.0	-3.9	20	1.7
850	31	1,462	9.9	-8.3	24	5.5
800	31	1,964	7.8	-10.6	25	7.4
750	31	2,493	4.7	-12.0	26	8.4
700	31	3,061	1.0	-15.4	25	10.1
650	31	3,642	-2.8	-19.0	24	13.5
600	31	4,272	-6.8	-22.7	24	16.8
550	31	4,946	-11.4	-25.6	25	20.0
500	31	5,670	-16.2	-29.4	25	23.1
450	31	6,455	-21.2	-33.4	25	27.2
400	31	7,316	-26.6	-38.9	25	32.3
350	31	8,271	-32.8	-44.3	25	37.5
300	31	9,336	-40.2	-48.3	25	41.6
250	31	10,559	-48.0		25	46.8
200	31	12,009	-53.9		26	46.6
175	31	12,862	-56.4		26	44.3
150	31	13,834	-59.6		26	38.8
125	31	14,965	-62.8		26	34.6
100	31	16,329	-65.8		26	27.8
80	30	17,684	-66.2		26	17.6
70	30	18,494	-66.3		26	11.8
60	27	19,433	-64.8		26	9.8
50	27	20,554	-61.5		24	5.6
40	27	21,948	-58.6		25	5.0
30	26	23,766	-57.1		28	4.3
25	26	24,923	-56.0		29	4.8
20	24	26,350	-53.7		28	5.8
15	24	28,213	-50.3		28	7.3
10	[illegible]	30,896	-44.5		25	12.4
7	10	33,253	-41.5			

MONTERREY, MEXICO
961 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	423	12.8	9.6	31	.3
1000						
950	30	547	14.2	9.4	34	.7
900	31	1,003	15.5	5.6	11	1.4
850	31	1,487	14.5	-.6	16	2.9
800	31	1,998	13.2	-3.6	22	3.7
750	31	2,540	11.7	-6.8	25	7.4
700	31	3,113	8.8	-12.0	25	11.3
650	31	3,722	5.1	-14.8	25	13.4
600	31	4,370	.6	-17.5	25	14.9
550	31	5,062	-4.0	-19.9	25	17.3
500	31	5,807	-9.1	-23.1	25	19.6
450	31	6,614	-14.4	-28.7	25	21.5
400	31	7,497	-20.5	-35.3	25	24.5
350	30	8,476	-27.7	-39.8	25	27.0
300	30	9,562	-36.5	-47.8	25	30.3
250	30	10,799	-46.6		25	34.1
200	30	12,243	-57.4		26	36.3
175	30	13,079	-61.7		26	35.1
150	30	14,026	-64.9		25	31.1
125	30	15,128	-68.8		25	27.9
100	28	16,447	-72.9		25	20.2
80	28	17,747	-74.6		25	15.3
70	28	18,525	-73.5		25	9.8
60	27	19,435	-69.5		25	3.4
50	26	20,541	-63.6		24	1.[illegible]
40	25	21,924	-59.9		06	.3
30	24	23,736	-57.0		03	1.4
25	24	24,897	-54.6		29	.7
20	22	26,334	-51.8		26	4.1
15	18	28,212	-48.3		26	6.5
10	12	30,927	-44.9		25	11.6
7						

MONETT, MO
961 MB

Standard pressure mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	438	5.4	.6	17	2.6
1000						
950	29	544	6.6	-1.0	20	3.0
900	31	977	6.2	-3.7	23	8.6
850	31	1,445	4.7	-6.8	25	10.1
800	31	1,937	2.8	-10.4	26	11.4
750	31	2,457	.3	-14.5	26	12.2
700	31	3,007	-2.8	-17.4	26	13.2
650	31	3,591	-6.2	-19.9	26	14.7
600	31	4,213	-9.9	-24.1	26	16.6
550	31	4,878	-14.4	-27.7	26	19.1
500	31	5,595	-19.0	-31.9	26	23.0
450	31	6,371	-24.2	-35.[illegible]	26	25.6
400	31	7,220	-29.9	-40.6	25	28.7
350	31	8,162	-36.3	-45.1	25	33.4
300	31	9,213	-43.6	-46.6	25	38.4
250	31	10,417	-51.4		26	44.0
200	31	11,854	-54.7		26	47.1
175	31	12,709	-54.9		26	42.8
150	31	13,690	-56.8		26	39.0
125	31	14,838	-59.7		26	33.7
100	31	16,224	-62.1		26	25.0
80	31	17,599	-63.3		26	18.1
70	30	18,424	-63.1		26	13.1
60	30	19,374	-62.5		26	9.0
50	30	20,504	-61.0		26	5.7
40	30	21,897	-59.5		28	4.0
30	30	23,704	-58.1		31	2.0
25	30	24,856	-56.8		30	2.1
20	29	26,276	-55.0		29	2.7
15	29	28,123	-52.6		28	4.4
10	23	30,795	-46.9		26	7.3
7	13	33,231	-42.0		27	11.2

RAWINSONDE DATA

Average monthly values

NASHVILLE, TN
995 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	180	8.4	2.4	18	1.8
1000	8	203	4.4	-3.1		
950	31	565	9.5	.1	22	4.5
900	31	1,012	7.1	-3.1	24	7.4
850	31	1,480	4.7	-6.3	25	9.3
800	31	1,973	3.0	-9.2	25	11.3
750	31	2,493	.7	-12.3	26	12.8
700	31	3,045	-2.1	-15.8	26	15.0
650	31	3,630	-5.3	-19.5	26	18.0
600	31	4,254	-9.1	-22.3	26	21.0
550	31	4,922	-13.2	-25.9	26	23.3
500	31	5,642	-17.6	-29.5	26	26.[illegible]
450	30	6,424	-22.2	-33.9	26	30.9
400	30	7,281	-27.9	-38.5	26	34.5
350	30	8,230	-34.6	-44.4	26	37.2
300	30	9,287	-42.2	-48.0	26	42.2
250	30	10,499	-50.0		26	46.8
200	30	11,938	-55.5		26	47.9
175	30	12,786	-57.3		26	44.[illegible]
150	30	13,758	-58.6		27	40.1
125	30	14,896	-61.3		27	34.8
100	30	16,271	-64.2		27	26.7
80	29	17,633	-64.6		27	17.4
70	29	18,450	-63.9		27	13.7
60	29	19,398	-62.6		27	9.0
50	29	20,526	-61.1		27	7.3
40	29	21,916	-59.9		27	5.2
30	29	23,721	-57.8		29	3.4
25	29	24,876	-56.3		29	2.9
20	28	26,300	-54.5		28	2.3
15	27	28,152	-51.7		26	5.8
10	24	30,838	-45.5		26	10.5
7	11	33,310	-41.5			

*** NOME, AK**
1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	24	5	-20.7	-25.8	06	1.9
1000	17	102	-20.5	-23.4	06	1.3
950	24	447	-17.2	-20.2	14	1.4
900	24	852	-17.5	-22.0	17	1.5
850	24	1,280	-17.5	-23.9	18	1.3
800	24	1,734	-18.4	-26.1	19	1.6
750	24	2,214	-20.2	-28.5	20	2.9
700	24	2,722	-22.7	-31.6	22	3.7
650	24	3,263	-25.5	-34.6	22	4.6
600	24	3,840	-28.8	-38.[illegible]	22	6.1
550	24	4,458	-32.5	-41.9	22	7.3
500	24	5,124	-36.6	-44.5	22	9.1
450	24	5,847	-41.2	-44.9	22	10.5
400	24	6,639	-46.5		21	11.9
350	24	7,518	-51.1		22	12.7
300	24	8,511	-53.5		22	13.0
250	24	9,689	-50.8		22	12.1
200	24	11,156	-47.6		23	10.9
175	24	12,039	-47.1		23	11.3
150	24	13,060	-46.8		22	10.2
125	23	14,273	-46.6		23	10.4
100	22	15,752	-45.8		23	9.5
80	21	17,245	-46.2		22	9.1
70	20	18,141	-46.8		23	8.3
60	20	19,164	-46.8		22	7.8
50	19	20,368	-47.5		22	5.3
40	19	21,845	-47.2		23	5.2
30	19	23,754	-45.9		23	4.3
25	16	24,963	-45.9		25	3.3
20	14	26,469	-45.4		24	1.7
15	7	28,444	-43.2			

NORTH PLATTE, NE
912 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	29	847	-2.1	-4.9	29	1.2
900	25	970	.1	-4.6	30	2.0
850	29	1,409	1.6	-7.1	28	4.8
800	29	1,897	.7	-9.4	28	6.7
750	29	2,413	-1.8	-13.4	28	8.3
700	29	2,958	-5.4	-16.4	27	9.3
650	29	3,535	-9.3	-20.6	27	9.9
600	29	4,147	-13.7	-24.3	27	11.3
550	29	4,805	-18.3	-28.1	27	11.0
500	29	5,510	-23.2	-32.6	26	12.0
450	29	6,273	-28.6	-38.0	26	14.7
400	29	7,105	-35.1	-43.2	26	17.7
350	29	8,026	-41.8	-45.4	26	20.5
300	29	9,053	-48.4		25	24.2
250	29	10,240	-52.9		25	29.4
200	29	11,673	-53.7		25	30.8
175	29	12,534	-52.8		26	28.8
150	29	13,529	-53.4		25	28.5
125	29	14,698	-55.2		26	24.5
100	29	16,118	-56.8		26	19.5
80	28	17,526	-57.9		26	13.1
70	27	18,367	-57.9		25	10.7
60	25	19,336	-57.8		26	7.7
50	25	20,485	-58.1		26	5.2
40	24	21,890	-57.8		27	3.6
30	24	23,713	-56.4		30	1.6
25	23	24,872	-55.8		02	2.3
20	21	26,308	-54.0		03	3.4
15	20	28,156	-52.8		03	3.4
10	14	30,801	-48.2		34	5.8
7	5	33,158	-46.6			

OAKLAND, CA
1018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	6	8.4	4.4	30	1.0
1000	31	153	8.5	3.3	31	1.6
950	31	576	7.2	-.7	33	3.1
900	31	1,019	5.2	-5.4	34	4.4
850	31	1,484	3.1	-9.5	32	4.4
800	31	1,973	.0	-12.7	32	5.5
750	31	2,487	-2.9	-16.5	32	6.6
700	31	3,031	-5.9	-20.2	32	7.6
650	31	3,607	-9.4	-23.8	31	9.6
600	31	4,221	-13.4	-27.7	31	11.1
550	31	4,878	-17.6	-31.5	31	12.6
500	31	5,585	-22.5	-35.6	31	13.9
450	31	6,350	-28.3	-39.0	31	14.8
400	31	7,184	-34.5	-43.7	31	16.9
350	31	8,107	-40.8	-47.9	31	19.8
300	31	9,138	-47.8		31	22.0
250	31	10,324	-54.0		30	23.7
200	31	11,747	-56.1		29	23.7
175	31	12,597	-55.1		29	23.6
150	31	13,582	-55.3		28	21.7
125	31	14,740	-57.[illegible]		28	20.0
100	31	16,139	-60.0		28	17.7
80	31	17,528	-60.7		27	11.8
70	31	18,362	-59.8		27	9.3
60	30	19,325	-59.5		27	6.0
50	29	20,471	-58.5		27	4.2
40	28	21,876	-57.3		29	1.4
30	25	23,698	-56.1		05	.8
25	22	24,859	-54.9		05	2.8
20	20	26,289	-53.3		07	4.2
15	15	28,164	-50.4		06	6.3
10	5	30,845	-46.4			

OMAHA, NE
962 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	403	3.0	-.5	20	.6
950	27	517	3.4	-2.0	24	[illegible]
900	31	937	3.6	-4.2	23	4.1
850	31	1,400	1.8	-7.3	25	[illegible]
800	31	1,887	-.1	-10.9	26	5.7
750	31	2,402	-2.8	-14.7	26	6.6
700	31	2,945	-6.0	-18.8	26	[illegible]
650	31	3,522	-9.4	-22.3	26	9.6
600	31	4,136	-13.4	-26.5	26	11.9
550	31	4,793	-17.9	-29.9	26	13.8
500	31	5,498	-22.8	-35.4	26	15.8
450	31	6,263	-28.3	-40.0	26	17.9
400	31	7,097	-34.5	-44.1	26	20.9
350	31	8,020	-41.2	-48.5	26	23.0
300	31	9,050	-47.2		25	28.0
250	31	10,243	-52.1		26	30.6
200	31	11,680	-53.2		26	31.7
175	31	12,542	-53.1		26	30.0
150	31	13,533	-53.6		26	28.4
125	31	14,701	-55.2		26	25.1
100	31	16,120	-57.2		26	17.9
80	31	17,526	-58.5		26	13.6
70	31	18,366	-58.6		26	10.1
60	31	19,335	-58.5		26	8.4
50	29	20,480	-58.4		27	6.1
40	29	21,885	-58.0		28	3.2
30	28	23,701	-56.9		32	1.9
25	27	24,860	-56.2		36	2.1
20	27	26,281	-55.5		36	3.0
15	25	28,131	-52.9		35	3.8
10	20	30,785	-48.1		31	7.3
7	8	33,224	-42.8			

PAGO PAGO, AMERICAN SAMOA
+ 1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	5	29.3	24.6	01	1.4
1000	31	72	28.2	22.9	01	1.6
950	31	527	24.1	21.0	36	2.3
900	31	999	20.[illegible]	17.9	01	2.5
850	31	1,493	18.4	14.5	36	3.[illegible]
800	31	2,012	15.9	11.6	01	2.8
750	31	2,559	13.2	7.9	01	2.6
700	31	3,137	10.3	3.4	36	2.5
650	31	3,752	7.2	-1.1	36	2.8
600	31	4,407	3.[illegible]	-5.0	01	2.8
550	31	5,110	.0	-8.5	01	2.6
500	31	5,869	-4.[illegible]	-13.2	36	1.[illegible]
450	31	6,693	-8.6	-18.7	34	1.6
400	31	7,597	-14.3	-24.7	33	1.2
350	30	8,601	-20.8	-32.7	32	1.3
300	30	9,720	-29.2	-40.4	29	1.5
250	30	10,995	-39.5	-49.0	27	1.9
200	30	12,482	-51.9		23	3.4
175	30	13,333	-59.0		22	4.1
150	30	14,282	-67.0		20	5.6
125	30	15,360	-75.4		18	6.8
100	30	16,629	-81.5		12	7.2
80	30	17,882	-79.7		10	10.5
70	30	18,648	-75.3		09	12.1
60	30	19,551	-71.3		09	13.4
50	30	20,641	-66.[illegible]		09	15.5
40	30	22,006	-62.[illegible]		09	20.1
30	29	23,814	-55.5		09	24.2
25	27	24,983	-53.0		09	27.2
20	27	26,434	-49.5		09	30.1
15	25	28,339	-45.2		09	29.4
10	22	31,078	-39.7		09	26.7
7	10	33,529	-38.0			

*** PEORIA, IL**
989 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	200	3.6	-1.2	19	1.6
950	31	526	5.3	-2.5	23	4.7
900	31	966	3.6	-3.9	25	7.5
850	31	1,429	2.0	-7.6	26	8.0
800	31	1,917	-.2	-11.0	26	8.3
750	31	2,431	-2.4	-16.1	26	10.2
700	31	2,976	-5.4	-20.3	26	11.8
650	31	3,554	-9.[illegible]	-23.3	26	13.6
600	31	4,169	-12.9	-25.0	26	15.3
550	31	4,827	-17.2	-28.4	26	17.0
500	31	5,535	-22.0	-33.[illegible]	26	19.4
450	30	6,300	-27.6	-39.0	27	21.9
400	30	7,136	-33.7	-44.9	26	25.1
350	30	8,064	-39.6	-46.8	26	30.3
300	30	9,101	-46.[illegible]		26	35.6
250	30	10,298	-51.7		26	39.0
200	30	11,738	-53.6		26	37.7
175	26	12,577	-53.6		26	34.3
150	26	13,567	-54.4		26	31.6
125	26	14,731	-56.0		27	26.9
100	26	16,145	-57.7		26	21.9
80	25	17,542	-58.6		26	15.7
70	25	18,380	-59.1		27	12.3
60	25	19,347	-58.9		27	9.6
50	24	20,495	-58.6		27	6.0
40	24	21,896	-58.9		28	4.6
30	24	23,710	-57.2		30	2.9
25	23	24,865	-56.5		31	2.2
20	22	26,292	-55.2		31	2.6
15	21	28,131	-53.8		30	4.2
10	20	30,752	-49.7		28	8.9

*** PITTSBURGH, PA**
973 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	359	2.8	-3.4	24	2.0
950	31	554	3.8	-2.4	25	3.9
900	31	993	2.0	-5.[illegible]	25	7.2
850	31	1,452	-.1	-8.0	26	10.0
800	31	1,937	-1.5	-11.1	27	12.4
750	31	2,449	-3.6	-15.7	27	14.[illegible]
700	31	2,992	-6.1	-18.1	27	16.6
650	31	3,569	-9.1	-21.2	27	17.4
600	31	4,184	-12.8	-23.3	27	19.2
550	31	4,842	-17.0	-27.7	27	21.8
500	31	5,551	-21.3	-32.8	27	25.7
450	30	6,320	-26.5	-37.5	27	28.1
400	30	7,161	-32.3	-42.8	27	29.7
350	30	8,094	-38.6	-45.6	27	33.[illegible]
300	30	9,135	-45.2		27	36.7
250	30	10,334	-51.6		27	39.0
200	30	11,773	-54.0		27	38.[illegible]
175	29	12,633	-54.8		27	36.2
150	29	13,617	-55.3		27	31.4
125	28	14,775	-57.2		27	25.8
100	27	16,174	-59.4		28	20.1
80	27	17,569	-59.8		28	14.9
70	27	18,404	-60.0		28	11.0
60	27	19,368	-59.6		28	7.8
50	27	20,511	-58.7		29	5.4
40	27	21,914	-58.4		31	2.4
30	26	23,730	-57.1		31	1.[illegible]
25	24	24,887	-55.9		30	1.9
20	22	26,309	-54.5		27	1.9
15	18	28,166	-52.1		25	6.3
10	8	30,856	-45.3			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	39	28.2	23.5	06	3.9
1000	31	82	26.8	22.3	06	4.7
950	31	534	22.9	20.2	07	9.3
900	31	1,004	19.8	16.3	07	10.8
850	31	1,496	17.0	10.7	08	8.3
800	31	2,013	15.7	6.0	08	[illegible].0
750	31	2,559	13.5	.7	08	3.2
700	31	3,137	10.4	-2.6	08	1.9
650	31	3,751	6.9	-5.0	10	2.1
600	31	4,404	3.4	-9.2	09	3.9
550	31	5,106	.2	-13.0	09	5.2
500	31	5,865	-3.7	-19.7	09	6.2
450	31	6,690	-8.4	-23.6	08	7.9
400	31	7,595	-13.9	-28.2	08	7.7
350	31	8,599	-20.5	-34.6	08	8.3
300	31	9,718	-29.0	-40.3	10	[illegible].0
250	31	10,995	-39.4	-50.4	11	7.9
200	31	12,482	-52.1		13	10.4
175	31	13,333	-59.0		13	10.7
150	31	14,282	-67.0		12	12.0
125	31	15,361	-75.1		11	12.[illegible]
100	31	16,628	-83.1		09	13.2
80	31	17,873	-79.1		09	6.2
70	31	18,643	-74.1		27	.5
60	31	19,551	-70.5		26	2.2
50	31	20,646	-65.6		10	4.9
40	31	22,015	-61.8		09	17.6
30	31	23,820	-56.1		09	25.7
25	31	24,989	-52.6		09	27.6
20	31	26,440	-49.4		09	28.[illegible]
15	30	28,351	-43.8		09	25.6
10	24	31,101	-39.5		09	8.4

PORTLAND, ME
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	20	-.3	-5.1	30	2.0
1000	24	132	2.2	-3.8	30	2.2
950	30	516	1.3	-5.8	31	5.4
900	30	949	-.8	-7.0	32	6.6
850	30	1,404	-2.9	-9.9	32	7.6
800	30	1,883	-4.6	-13.1	32	8.1
750	30	2,390	-6.2	-17.1	30	9.7
700	30	2,927	-9.1	-19.7	29	11.2
650	30	3,498	-12.2	-23.6	29	12.7
600	30	4,105	-15.8	-26.6	29	13.5
550	30	4,756	-19.8	-30.7	29	14.2
500	30	5,457	-24.4	-34.7	29	15.7
450	30	6,217	-29.3	-39.9	29	17.8
400	30	7,049	-35.1	-44.2	29	21.3
350	30	7,971	-41.1	-46.4	29	25.1
300	30	9,002	-47.0		28	27.7
250	30	10,197	-51.2		29	29.5
200	30	11,642	-52.4		29	28.2
175	30	12,507	-52.2		29	25.5
150	30	13,504	-52.4		28	23.4
125	30	14,678	-54.3		28	20.9
100	30	16,103	-55.8		28	17.0
80	30	17,521	-56.2		28	13.6
70	30	18,368	-57.2		27	10.8
60	30	19,344	-56.7		28	8.9
50	29	20,501	-57.0		28	6.7
40	29	21,913	-56.9		29	4.2
30	29	23,740	-56.0		30	1.9
25	29	24,901	-55.4		29	2.0
20	27	26,334	-54.6		28	3.4
15	25	28,175	-53.0		27	7.9
10	21	30,817	-48.1		26	20.2
7	11	33,236	-42.7			

*** QUILLAYUTE, WA**
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	58	3.8	1.3	24	.8
1000	28	144	4.1	1.6	26	.9
950	31	548	2.2	-.2	25	3.6
900	31	983	-1.0	-2.9	26	5.3
850	31	1,436	-4.0	-7.6	26	6.1
800	31	1,913	-6.4	-12.4	26	7.1
750	31	2,415	-9.1	-19.7	27	8.1
700	31	2,946	-12.1	-23.6	28	9.3
650	31	3,509	-15.5	-27.0	28	10.9
600	31	4,109	-19.3	-30.8	29	12.7
550	31	4,750	-23.5	-35.2	29	15.0
500	31	5,441	-28.3	-38.9	30	16.8
450	31	6,189	-33.2	-41.1	30	18.9
400	31	7,007	-38.8	-45.8	30	21.0
350	31	7,914	-44.9		30	22.8
300	31	8,928	-50.8		30	24.4
250	31	10,105	-54.9		30	24.8
200	31	11,527	-55.4		30	17.6
175	31	12,382	-53.8		30	15.7
150	31	13,375	-53.3		29	14.5
125	31	14,549	-53.4		29	13.5
100	30	15,981	-54.0		29	9.2
80	29	17,413	-54.5		29	7.2
70	29	18,269	-54.5		29	5.8
60	27	19,263	-53.9		29	3.8
50	26	20,436	-53.6		31	2.3
40	25	21,870	-53.2		02	2.7
30	22	23,727	-52.2		06	3.9
25	20	24,912	-51.3		06	5.9
20	17	26,373	-50.4		06	7.7
15	10	28,261	-48.1			
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RAPID CITY, SD
899 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	966	-2.1	-6.7	34	4.7
900	14	1,005	-2.4	-8.6	33	4.2
850	31	1,411	-.3	-9.0	32	7.2
800	31	1,894	-2.1	-11.7	32	6.7
750	31	2,405	-4.7	-14.0	31	6.0
700	31	2,944	-8.0	-16.3	32	6.2
650	31	3,516	-11.6	-19.7	31	6.1
600	31	4,125	-15.8	-22.6	29	7.1
550	31	4,775	-20.5	-27.0	28	8.8
500	31	5,474	-25.5	-32.5	28	10.4
450	31	6,230	-30.7	-37.5	27	11.5
400	31	7,055	-37.2	-43.5	27	12.3
350	31	7,967	-44.0		26	13.2
300	31	8,983	-51.2		26	14.4
250	31	10,154	-55.9		26	18.3
200	31	11,577	-54.2		26	18.9
175	30	12,441	-53.0		26	19.0
150	30	13,436	-52.9		26	18.6
125	29	14,607	-54.5		26	17.5
100	28	16,038	-56.2		26	14.8
80	26	17,456	-56.2		26	11.7
70	25	18,305	-56.6		26	10.5
60	24	19,281	-57.2		26	8.[illegible]
50	23	20,436	-56.9		27	4.9
40	23	21,849	-56.9		28	2.9
30	23	23,673	-56.2		02	2.4
25	20	24,836	-55.0		04	3.5
20	19	26,260	-54.6		04	5.2
15	17	28,115	-52.4		05	7.2
10	8	30,791	-48.6			

ST CLOUD, MN
974 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	316	-1.9	-5.0	05	1.3
950	31	512	-.3	-4.0	07	1.1
900	31	945	-.4	-5.6	24	.2
850	31	1,402	-1.3	-9.4	27	2.7
800	31	1,884	-3.5	-12.3	27	3.7
750	31	2,392	-6.3	-14.4	27	4.3
700	31	2,928	-9.3	-18.1	28	4.7
650	31	3,498	-12.2	-23.1	27	6.0
600	31	4,106	-16.3	-26.2	27	7.5
550	31	4,755	-20.8	-31.4	27	9.2
500	31	5,452	-25.6	-36.4	26	11.0
450	31	6,208	-31.0	-40.5	26	13.0
400	31	7,033	-37.3	-43.7	27	15.0
350	31	7,944	-44.2		26	16.7
300	31	8,960	-50.7		26	19.0
250	31	10,137	-54.1		26	22.4
200	31	11,568	-53.4		26	27.2
175	31	12,430	-52.6		26	21.0
150	31	13,426	-52.5		26	20.3
125	31	14,602	-53.8		26	17.7
100	31	16,03[illegible]	-55.2		26	14.9
80	31	17,452	-56.3		26	12.8
70	31	18,300	-56.4		26	11.[illegible]
60	31	19,278	-56.9		27	9.4
50	31	20,432	-57.0		28	6.3
40	31	21,845	-57.0		29	3.3
30	30	23,673	-56.6		34	2.2
25	29	24,832	-56.5		36	3.1
20	26	26,252	-55.7		01	5.1
15	24	28,084	-54.5		01	6.5
10	15	30,710	-51.2		02	7.0

*** ST PAUL ISLAND, AK**
1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	29	10	-4.9	-7.7	34	2.6
1000	20	110	-5.6	-8.0	33	3.2
950	29	449	-7.8	-9.2	31	2.5
900	29	867	-10.4	-12.1	27	3.0
850	29	1,306	-12.4	-16.0	25	4.6
800	29	1,767	-14.6	-19.5	25	6.0
750	29	2,254	-17.2	-23.7	25	7.0
700	29	2,768	-20.1	-27.3	25	7.7
650	29	3,315	-23.0	-30.6	25	8.9
600	29	3,897	-26.7	-34.1	25	10.4
550	29	4,520	-30.6	-37.8	25	11.5
500	29	5,191	-34.9	-40.9	25	13.4
450	29	5,920	-39.3	-44.0	25	15.8
400	29	6,718	-44.3	-44.5	25	17.[illegible]
350	29	7,606	-49.2		24	19.9
300	29	8,605	-53.1		24	20.1
250	29	9,782	-51.6		23	19.1
200	29	11,238	-49.0		23	18.7
175	29	12,117	-48.0		23	17.1
150	29	13,134	-48.1		23	16.0
125	29	14,337	-48.0		23	15.1
100	29	15,809	-48.1		23	13.1
80	28	17,292	-47.8		23	11.2
70	28	18,173	-48.1		23	8.1
60	28	19,189	-48.3		22	7.3
50	28	20,389	-48.3		22	6.1
40	28	21,861	-47.8		21	3.9
30	27	23,759	-47.4		17	2.4
25	26	24,964	-46.6		14	2.4
20	26	26,449	-45.4		11	3.0
15	24	28,381	-44.0		09	5.6
10	10	31,128	-43.3			

SALEM, IL
993 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	31	174	6.0	.6	19	2.0
1000	[illegible]	190	1.9	-3.9		
950	31	535	7.3	-1.9	23	5.5
900	31	979	4.9	-3.9	25	8.4
850	31	1,443	3.3	-9.2	26	9.8
800	31	1,934	1.6	-12.7	26	10.6
750	31	2,451	-.7	-17.0	25	11.6
700	31	2,999	-3.9	-20.1	26	12.9
650	31	3,581	-7.2	-22.9	26	14.4
600	31	4,200	-11.5	-25.7	26	16.3
550	31	4,861	-15.7	-29.4	26	18.4
500	31	5,574	-20.4	-33.4	26	21.6
450	31	6,346	-25.3	-38.0	26	25.8
400	31	7,192	-31.0	-43.7	26	30.2
350	31	8,129	-37.4	-48.4	26	34.1
300	31	9,176	-44.3	-49.1	26	36.1
250	31	10,379	-51.0		26	41.3
200	31	11,819	-54.4		26	39.5
175	31	12,673	-54.9		26	34.8
150	30	13,660	-55.8		26	32.9
125	30	14,814	-58.4		26	27.7
100	29	16,209	-60.4		26	21.2
80	29	17,543	-61.6		26	14.7
70	29	18,423	-61.0		27	11.3
60	28	19,383	-60.8		26	8.6
50	27	20,520	-59.7		26	6.4
40	27	21,91[illegible]	-59.1		27	3.5
30	27	23,727	-57.6		30	3.5
25	27	24,881	-56.5		30	2.6
20	27	26,301	-55.2		30	2.4
15	26	28,153	-51.9		27	6.1
10	23	30,818	-46.9		26	15.9

RAWINSONDE DATA

Average monthly values

MARCH 1977

SALEM, OR
1012 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	61	3.9	1.1	21	1.9
1000	31	154	4.8	2.2	22	2.4
950	31	571	3.2	-.6	24	3.9
900	31	1,006	.6	-3.9	26	5.0
850	31	1,464	-2.3	-7.5	27	6.8
800	31	1,944	-5.2	-11.0	28	8.4
750	31	2,446	-7.8	-15.1	28	9.0
700	31	2,982	-11.1	-19.3	28	9.5
650	31	3,547	-14.5	-24.0	29	10.5
600	31	4,150	-18.0	-29.3	29	11.5
550	31	4,795	-22.3	-33.8	30	13.7
500	31	5,489	-27.1	-38.5	30	15.6
450	31	6,241	-32.1	-41.3	30	16.5
400	31	7,062	-38.2	-44.3	31	19.0
350	31	7,971	-44.8		31	19.1
300	31	8,985	-50.6		31	21.0
250	31	10,162	-55.3		32	21.1
200	31	11,583	-55.6		31	16.6
175	31	12,437	-54.3		30	15.5
150	31	13,427	-53.7		30	14.2
125	31	14,597	-54.8		30	13.3
100	31	16,021	-55.7		29	11.2
80	31	17,443	-55.5		29	7.8
70	30	18,295	-55.6		28	5.9
60	29	19,277	-55.1		29	3.9
50	29	20,443	-54.8		28	1.5
40	28	21,870	-54.8		02	.9
30	28	23,718	-53.2		07	3.9
25	27	24,899	-52.5		07	5.4
20	26	26,351	-51.1		07	7.5
15	24	28,225	-49.4		07	10.3
10	14	30,920	-46.4		06	15.4
7						

SALT LAKE CITY, UT
868 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,288	.3	-5.0	16	1.3
1000						
950						
900						
850	31	1,456	.6	-7.6	19	.9
800	31	1,941	-2.1	-10.6	25	2.4
750	31	2,451	-5.6	-13.3	27	3.7
700	31	2,988	-9.4	-16.1	28	5.3
650	31	3,556	-13.4	-19.8	27	6.9
600	31	4,161	-17.4	-25.1	28	8.2
550	31	4,807	-21.8	-30.8	27	8.5
500	31	5,502	-26.8	-35.5	27	9.9
450	31	6,254	-31.9	-39.2	26	11.4
400	31	7,077	-37.6	-43.4	26	12.4
350	31	7,989	-43.4	-48.2	27	13.3
300	31	9,009	-49.7		28	16.0
250	31	10,190	-54.0		27	19.1
200	31	11,619	-54.7		27	20.2
175	31	12,476	-53.4		27	19.5
150	31	13,468	-54.0		27	19.5
125	31	14,635	-55.4		27	18.4
100	31	16,054	-57.0		26	13.9
80	31	17,462	-58.0		26	10.9
70	31	18,304	-57.9		26	8.9
60	31	19,276	-57.8		25	6.3
50	31	20,427	-57.5		25	4.7
40	30	21,834	-57.4		27	2.5
30	29	23,657	-56.5		04	1.2
25	27	24,814	-55.6		05	2.9
20	25	26,232	-54.9		05	5.1
15	20	28,090	-53.0		05	6.3
10	9	30,736	-49.5			
7						

SAN DIEGO, CA
1001 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	124	8.8	4.1	14	.4
1000	23	142	9.8	1.4	05	.4
950	31	560	9.8	.8	33	1.3
900	31	1,007	7.1	-3.4	30	3.0
850	31	1,475	4.6	-9.3	30	4.6
800	31	1,967	2.8	-14.2	30	5.0
750	31	2,487	.7	-17.9	30	6.7
700	31	3,038	-2.2	-20.7	29	8.3
650	31	3,624	-5.3	-22.9	29	10.2
600	31	4,247	-9.3	-26.1	29	11.6
550	31	4,914	-13.5	-30.3	28	13.1
500	31	5,633	-18.1	-34.2	28	16.2
450	31	6,411	-23.8	-39.1	27	19.5
400	31	7,261	-30.1	-43.0	27	22.3
350	31	8,201	-37.0	-49.2	27	25.6
300	31	9,249	-43.7		27	30.7
250	31	10,456	-50.7		26	36.3
200	31	11,894	-55.2		26	39.6
175	30	12,742	-55.6		26	38.3
150	30	13,721	-57.3		26	33.7
125	30	14,867	-60.2		26	28.5
100	30	16,248	-63.3		26	22.9
80	28	17,614	-63.8		26	17.6
70	28	18,435	-63.3		26	14.1
60	28	19,387	-61.5		26	9.5
50	28	20,521	-60.2		26	7.7
40	25	21,912	-59.0		28	5.6
30	24	23,726	-56.7		27	2.3
25	23	24,884	-55.7		27	3.1
20	22	26,309	-54.0		27	3.9
15	20	28,168	-51.4		29	3.1
10	7	30,824	-46.4			
7						

SAN JUAN, P. R.
1017 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	6	21.7	19.3	10	2.1
1000	31	146	22.3	18.0	11	4.0
950	31	591	19.4	15.4	11	6.7
900	31	1,055	16.3	12.4	11	6.6
850	31	1,539	13.0	8.8	10	5.9
800	31	2,047	11.5	.8	10	[illegible].4
750	31	2,586	10.4	-6.5	09	[illegible].3
700	31	3,158	8.6	-11.6	09	3.6
650	31	3,767	5.6	-14.6	09	2.7
600	31	4,417	[illegible].8	-18.0	09	2.0
550	31	5,113	-2.3	-22.3	06	1.7
500	31	5,863	-7.0	-26.6	03	3.5
450	31	6,676	-12.3	-30.8	36	5.9
400	31	7,565	-18.9	-36.5	35	7.3
350	31	8,548	-26.3	-42.8	35	9.2
300	30	9,641	-35.1	-50.3	34	10.6
250	30	10,887	-44.8		33	12.7
200	30	12,345	-55.3		31	14.4
175	30	13,187	-60.3		31	14.4
150	30	14,138	-64.6		30	14.[illegible]
125	30	15,239	-69.2		31	12.5
100	30	16,554	-74.3		32	[illegible].3
80	29	17,841	-76.[illegible]		35	5.[illegible]
70	29	18,614	-74.6		01	4.5
60	29	19,521	-69.5		05	3.1
50	29	20,630	-62.6		07	3.3
40	29	22,019	-58.9		09	6.6
30	29	23,842	-54.8		10	10.7
25	29	25,015	-52.1		10	12.4
20	28	26,470	-48.5		11	12.9
15	27	28,374	-45.8		12	10.[illegible]
10	24	31,097	-41.[illegible]		10	9.6
7	13	33,514	-38.8			

* **SAULT STE MARIE, MI**
986 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	221	-3.9	-6.3	09	1.0
1000						
950	31	514	-1.4	-7.0	12	1.0
900	31	944	-2.4	-8.3	24	1.3
850	31	1,397	-3.5	-10.6	26	3.3
800	31	1,875	-5.5	-12.2	27	4.9
750	31	2,380	-7.9	-14.9	27	6.1
700	31	2,913	-10.3	-19.6	27	7.4
650	31	3,481	-13.1	-22.1	26	9.2
600	31	4,087	-16.7	-24.3	26	10.5
550	31	4,736	-20.8	-29.3	27	11.2
500	31	5,434	-25.5	-33.0	27	12.9
450	31	6,191	-30.5	-37.3	27	14.4
400	31	7,017	-36.8	-42.4	27	16.1
350	31	7,931	-43.5	-45.3	27	18.4
300	31	8,950	-50.1		27	23.1
250	31	10,131	-53.3		27	24.9
200	31	11,568	-53.1		27	25.1
175	31	12,430	-52.6		27	22.3
150	31	13,427	-52.5		27	20.4
125	31	14,604	-53.3		27	18.8
100	31	16,036	-54.5		27	15.6
80	30	17,458	-55.5		27	14.3
70	30	18,309	-55.9		27	11.0
60	30	19,290	-56.1		27	8.7
50	30	20,447	-56.6		27	7.1
40	30	21,863	-56.4		29	4.5
30	29	23,691	-56.7		30	2.9
25	29	24,848	-56.4		31	2.3
20	28	26,271	-56.0		33	2.8
15	28	28,107	-54.5		33	2.6
10	27	30,725	-52.3		29	5.8
7	13	33,024	-48.8			

SPOKANE, WA
928 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	720	.6	-3.0	20	3.5
1000						
950						
900	31	965	1.3	-4.3	22	5.5
850	31	1,426	-1.2	-8.2	24	6.[illegible]
800	31	1,907	-4.6	-11.0	25	7.5
750	31	2,411	-8.4	-13.3	25	7.8
700	31	2,943	-11.8	-17.3	26	8.0
650	31	3,507	-15.5	-21.8	26	8.3
600	31	4,107	-19.4	-26.3	27	9.8
550	31	4,748	-23.8	-30.0	27	11.2
500	31	5,437	-28.8	-35.4	27	12.2
450	31	6,183	-34.0	-39.4	27	13.5
400	31	6,997	-40.2	-42.7	27	15.0
350	31	7,899	-46.2		27	16.5
300	31	8,908	-51.5		28	17.6
250	31	10,082	-54.8		28	20.0
200	31	11,508	-54.2		29	16.5
175	31	12,368	-52.6		29	14.5
150	31	13,366	-52.1		28	12.6
125	31	14,546	-52.9		28	11.0
100	31	15,982	-53.6		28	9.7
80	31	17,415	-54.0		27	7.2
70	31	18,272	-54.2		28	5.9
60	30	19,262	-53.7		28	4.1
50	28	20,437	-53.7		31	2.1
40	27	21,870	-53.7		01	1.1
30	26	23,724	-52.6		05	3.3
25	25	24,903	-52.1		06	5.4
20	20	26,357	-50.9		06	8.3
15	15	28,224	-50.1		06	11.1
10	9	30,894	-48.3			
7						

TAMPA BAY, FL
1017 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	13	16.0	14.8	11	1.4
1000	31	156	17.8	13.5	13	3.2
950	31	595	16.4	10.3	15	4.4
900	31	1,054	14.9	4.3	19	3.6
850	31	1,536	13.1	-.5	22	4.5
800	31	2,045	11.8	-3.9	24	5.4
750	31	2,583	9.9	-9.3	25	7.3
700	31	3,153	7.1	-10.8	25	9.4
650	31	3,759	4.1	-15.0	26	11.2
600	31	4,405	.2	-18.7	27	12.5
550	31	5,096	-4.5	-22.0	27	14.9
500	31	5,839	-9.6	-26.1	27	17.5
450	31	6,645	-14.[illegible]	-30.0	27	20.9
400	31	7,525	-21.4	-35.2	27	23.6
350	31	8,499	-28.4	-41.3	27	26.[illegible]
300	31	9,581	-37.2	-48.7	28	27.0
250	31	10,815	-46.8		28	29.4
200	31	12,260	-56.9		28	30.9
175	31	13,098	-61.1		28	31.7
150	31	14,047	-64.5		28	30.5
125	31	15,155	-67.4		28	25.8
100	31	16,485	-71.7		28	20.2
80	31	17,795	-73.0		28	12.1
70	31	18,579	-72.2		28	7.6
60	30	19,491	-69.4		28	4.6
50	30	20,592	-65.0		30	2.1
40	30	21,969	-60.3		36	2.6
30	30	23,779	-56.7		36	2.4
25	29	24,942	-54.1		34	1.6
20	29	26,387	-50.2		26	4.0
15	26	28,279	-46.9		26	5.4
10	24	30,995	-43.5		24	10.4
7	11	33,425	-40.3			

TOPEKA, KS
979 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	268	5.3	-.3	21	1.5
1000						
950	30	516	5.8	-1.0	27	2.8
900	30	958	4.5	-3.7	26	6.1
850	30	1,423	3.7	-7.0	26	7.2
800	30	1,914	1.6	-11.[illegible]	26	8.1
750	30	2,431	-1.2	-14.3	27	9.7
700	30	2,978	-4.2	-16.[illegible]	27	11.6
650	30	3,559	-7.6	-19.9	27	13.1
600	30	4,177	-11.5	-24.[illegible]	26	15.2
550	30	4,838	-16.0	-29.0	26	17.6
500	30	5,549	-21.1	-33.7	26	20.4
450	30	6,318	-26.8	-37.[illegible]	26	23.2
400	30	7,159	-32.6	-43.3	26	27.4
350	30	8,090	-38.9	-46.8	26	28.5
300	30	9,130	-45.5		26	35.6
250	30	10,328	-51.7		26	32.1
200	30	11,766	-53.6		26	32.7
175	30	12,625	-53.8		26	32.6
150	30	13,611	-55.3		26	30.1
125	30	14,768	-57.7		26	26.6
100	29	16,167	-59.5		27	18.2
80	29	17,559	-61.0		26	12.9
70	29	18,390	-60.3		26	10.7
60	29	19,351	-60.4		26	9.0
50	29	20,490	-59.2		26	4.7
40	29	21,890	-58.8		29	2.8
30	28	23,695	-57.9		30	2.2
25	28	24,848	-56.9		33	1.5
20	28	26,266	-55.5		33	2.6
15	25	28,125	-53.0		32	2.9
10	22	30,768	-48.5		29	5.7
7	10	33,103	-46.5			

* **TRUK, CAROLINE IS.**
1011 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	2	27.7	23.6	05	5.3
1000	31	98	26.8	22.6	05	7.3
950	31	551	23.2	20.5	06	9.7
900	31	1,022	20.2	17.1	06	9.9
850	31	1,514	17.3	12.8	06	8.4
800	31	2,032	15.3	8.7	06	7.5
750	31	2,578	13.3	2.8	07	[illegible].4
700	31	3,156	10.5	-2.1	08	3.2
650	31	3,771	7.7	-5.3	09	3.6
600	31	4,427	4.2	-9.4	08	4.6
550	31	5,130	.9	-14.6	07	6.4
500	31	5,891	-3.1	-20.8	07	8.8
450	31	[illegible],717	-8.1	-24.5	08	9.5
400	31	7,622	-13.7	-30.1	08	10.0
350	31	[illegible],627	-20.5	-35.7	08	[illegible].2
300	31	9,746	-29.1	-41.8	09	8.7
250	31	11,021	-39.5	-50.8	10	9.4
200	31	12,509	-51.8		11	10.8
175	31	13,360	-59.0		12	11.[illegible]
150	31	14,309	-67.2		11	12.8
125	31	15,387	-75.3		10	14.7
100	31	16,653	-82.5		08	15.4
80	31	17,903	-78.1		08	5.[illegible]
70	31	18,674	-73.8		23	.8
60	31	19,582	-70.2		26	1.7
50	31	20,680	-65.1		08	5.7
40	31	22,055	-61.2		08	18.2
30	31	23,862	-56.2		08	25.8
25	31	25,030	-53.0		08	28.0
20	31	26,483	-49.0		08	29.9
15	29	28,385	-44.5		08	28.[illegible]
10	24	31,138	-37.9		08	11.[illegible]
7	8	33,647	-34.6			

* **TUCSON, AZ**
923 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	789	7.7	-5.6	16	1.9
1000						
950						
900	31	994	10.5	-7.1	18	2.0
850	31	1,467	7.9	-9.[illegible]	23	2.6
800	31	1,964	4.4	-11.1	24	4.0
750	31	2,486	.8	-14.1	25	5.4
700	31	3,036	-2.5	-17.7	26	6.5
650	31	3,621	-5.6	-20.3	26	8.9
600	31	4,244	-9.2	-24.7	26	12.1
550	31	4,912	-13.5	-28.9	26	14.6
500	31	5,630	-18.3	-33.2	26	18.3
450	31	6,409	-23.5	-36.9	26	21.7
400	31	7,260	-29.3	-40.6	26	26.0
350	31	8,204	-35.6	-45.0	26	30.5
300	31	9,259	-42.4	-48.7	26	36.8
250	31	10,472	-49.1		26	45.0
200	30	11,923	-53.0		26	45.5
175	30	12,781	-54.9		26	41.7
150	30	13,760	-57.9		26	38.5
125	29	14,897	-60.7		26	32.6
100	29	16,274	-64.3		26	25.4
80	28	17,636	-64.7		25	17.7
70	28	18,451	-64.9		25	14.8
60	27	19,395	-63.0		26	7.9
50	25	20,520	-60.9		25	6.0
40	23	21,919	-58.8		27	3.2
30	23	23,732	-56.8		26	3.4
25	23	24,890	-56.1		27	4.0
20	21	26,314	-54.6		28	5.1
15	14	28,163	-52.5		27	7.6
10	[illegible]	30,800	-48.5			
7						

* **VANDENBERG AFB, CA**
1006 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	7.5	3.2	35	1.3
1000	27	158	8.8	3.4	35	2.8
950	30	575	8.2	-.8	35	6.7
900	30	1,020	6.6	-5.5	35	5.8
850	30	1,487	4.0	-10.2	34	6.6
800	30	1,978	1.6	-14.5	33	7.0
750	30	2,496	-.5	-17.3	33	8.4
700	30	3,044	-3.6	-20.9	32	9.2
650	30	3,626	-7.1	-24.3	32	9.9
600	30	4,246	-10.6	-27.7	31	11.2
550	30	4,910	-14.9	-30.4	31	11.8
500	30	5,623	-20.1	-34.4	30	13.4
450	30	6,395	-26.1	-38.4	30	14.9
400	30	7,237	-32.2	-43.6	30	16.5
350	30	8,169	-38.7	-50.0	29	19.7
300	30	9,2[illegible]9	-45.7		29	22.8
250	30	10,403	-52.9		28	25.7
200	30	11,833	-55.6		27	28.9
175	30	12,684	-55.3		27	28.5
150	30	13,666	-56.4		27	27.5
125	30	14,816	-59.4		27	24.2
100	30	16,204	-61.3		27	19.2
80	30	17,585	-62.3		27	14.4
70	30	18,4[illegible]0	-62.0		27	12.5
60	29	19,369	-60.7		27	8.5
50	29	20,507	-59.4		26	6.0
40	29	21,908	-58.6		26	3.8
30	29	23,725	-56.9		29	1.7
25	28	24,887	-55.5		35	.8
20	28	26,317	-53.2		06	1.3
15	28	28,180	-50.5		06	2.2
10	26	30,854	-46.1		04	3.9
7	[illegible]	33,226	-43.5		34	4.[illegible]
5	7	35,443	-41.8			

VICTORIA, TX
1009 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	33	13.[illegible]	11.4	11	1.4
1000	28	114	15.8	10.4	11	2.3
950	31	541	15.3	6.2	16	6.2
900	31	998	13.2	3.0	18	5.7
850	31	1,478	12.4	-2.1	20	5.3
800	31	1,985	10.7	-6.4	22	7.[illegible]
750	31	2,520	8.9	-9.3	24	8.4
700	31	3,088	6.2	-12.4	24	10.4
650	31	3,692	2.7	-15.[illegible]	24	13.4
600	31	4,334	-1.7	-18.5	25	16.6
550	31	5,020	-6.8	-21.5	25	19.4
500	31	5,757	-11.6	-25.1	25	23.3
450	31	6,558	-16.4	-29.7	25	28.2
400	31	7,432	-22.8	-36.2	25	31.3
350	31	8,401	-29.7	-43.1	26	36.3
300	31	9,480	-37.6	-47.6	26	40.[illegible]
250	31	10,712	-47.1		26	44.1
200	31	12,155	-57.3		26	46.0
175	31	12,993	-60.4		26	42.6
150	31	13,948	-63.3		26	37.1
125	31	15,059	-66.8		26	33.2
100	30	16,392	-70.4		25	23.9
80	27	17,711	-72.4		25	16.5
70	27	18,497	-71.9		25	10.2
60	27	19,413	-68.0		25	7.1
50	25	20,526	-63.1		25	3.5
40	24	21,911	-60.4		26	2.2
30	24	23,719	-57.3		31	3.2
25	23	24,874	-55.7		30	3.7
20	22	26,304	-52.9		28	5.8
15	20	28,176	-49.0		27	7.6
10	20	30,874	-43.8		25	14.2
7	13	33,273	-40.3			
5						

* **WAKE IS., PACIFIC AREA**
1016 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	24.3	21.2	06	7.4
1000	31	146	23.4	18.9	06	8.6
950	31	593	19.7	16.9	07	9.0
900	31	1,057	16.5	13.7	08	8.3
850	31	1,542	13.5	9.[illegible]	08	7.4
800	31	2,051	12.5	1.4	08	5.9
750	31	2,591	10.7	-3.8	08	4.6
700	31	3,164	7.8	-8.0	08	3.8
650	31	3,771	5.0	-13.8	07	3.3
600	31	4,420	1.5	-17.2	05	3.0
550	31	5,116	-2.0	-21.2	36	3.5
500	31	5,868	-5.8	-25.2	33	6.2
450	31	6,681	-10.4	-29.4	33	7.8
400	31	7,583	-16.8	-34.[illegible]	32	9.4
350	31	8,576	-23.4	-40.0	31	11.8
300	31	9,683	-31.7	-47.3	30	14.0
250	29	10,944	-41.0	-53.8	29	17.1
200	28	12,421	-52.7		28	18.6
175	28	13,270	-59.4		28	19.2
150	28	14,218	-66.7		28	17.5
125	28	15,300	-74.4		27	14.0
100	27	16,578	-81.1		29	8.0
80	27	17,826	-82.5		28	.8
70	27	18,580	-77.8		11	2.7
60	27	19,474	-72.3		11	3.6
50	26	20,565	-64.7		10	4.6
40	26	21,942	-60.4		10	4.9
30	24	23,753	-56.4		08	7.8
25	24	24,918	-53.9		08	9.9
20	23	26,363	-49.5		08	9.9
15	21	28,260	-47.1		08	8.5
10	20	30,958	-44.1		09	5.1
7	13	33,351	-41.4		10	1.1
5	5	35,659	-36.4			

* **WALLOPS ISLAND, VA NASA**
1017 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	4	5.9	2.4	26	1.4
1000	31	144	8.4	2.1	27	3.1
950	31	569	7.5	-.9	28	6.3
900	31	1,012	5.2	-4.2	29	7.4
850	31	1,477	2.7	-6.3	28	[illegible].6
800	31	1,966	1.2	-10.5	28	10.5
750	31	2,485	-.5	-13.5	28	12.9
700	31	3,034	-3.1	-15.3	28	15.7
650	31	3,618	-5.9	-18.8	28	17.6
600	31	4,241	-9.3	-22.0	28	21.3
550	31	4,909	-13.3	-25.5	28	24.9
500	31	5,628	-18.2	-29.7	28	27.0
450	31	6,407	-23.3	-34.4	28	30.[illegible]
400	31	7,259	-29.2	-39.5	28	34.7
350	31	8,203	-35.[illegible]	-42.4	28	39.4
300	31	9,255	-43.3	-49.5	28	44.5
250	31	10,462	-50.8		28	47.4
200	31	11,899	-55.1		28	46.8
175	31	12,752	-55.6		28	42.9
150	31	13,733	-56.6		28	35.8
125	31	14,883	-59.1		28	32.1
100	31	16,271	-61.6		28	25.3
80	31	17,649	-62.4		28	18.9
70	31	18,474	-62.0		28	14.3
60	31	19,430	-60.6		29	9.8
50	30	20,568	-59.6		29	6.6
40	30	21,965	-59.1		30	3.9
30	29	23,779	-56.7		30	2.6
25	28	24,937	-55.4		30	2.3
20	27	26,367	-53.6		26	3.4
15	21	28,223	-50.9		26	7.5
10	17	30,896	-45.1		26	18.2
7						
5						

WASHINGTON DULLES INT, AP
1006 MB

Standard pressure (mb.)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	85	4.0	-.7	29	1.4
1000	25	158	5.5	-1.7	28	2.3
950	31	558	5.8	-2.3	27	5.5
900	31	999	3.8	-5.2	28	7.6
850	31	1,462	1.8	-7.1	28	8.5
800	31	1,949	.2	-10.6	28	9.3
750	31	2,465	-1.9	-14.2	28	11.7
700	31	3,011	-4.5	-16.[illegible]	28	14.3
650	31	3,592	-7.2	-19.3	28	17.0
600	31	4,212	-10.6	-22.0	28	20.3
550	31	4,877	-14.6	-25.0	27	22.7
500	31	5,592	-19.5	-30.1	27	25.6
450	31	6,367	-24.8	-34.1	27	28.8
400	31	7,214	-30.6	-39.2	27	31.9
350	31	8,153	-37.2	-43.4	27	36.3
300	31	9,199	-44.5		28	40.5
250	31	10,399	-51.9		28	44.2
200	31	11,832	-55.8		28	43.6
175	31	12,683	-55.5		28	39.4
150	31	13,664	-56.5		28	33.7
125	30	14,813	-58.7		28	29.5
100	28	16,205	-61.2		28	22.9
80	28	17,588	-62.1		27	17.5
70	28	18,414	-61.8		28	12.5
60	28	19,369	-61.4		28	9.3
50	28	20,505	-60.0		28	6.1
40	28	21,899	-59.6		29	4.8
30	28	23,708	-57.5		30	2.9
25	27	24,860	-56.8		29	2.7
20	26	26,278	-55.5		27	4.3
15	25	28,126	-52.9		27	8.8
10	9	30,773	-47.0			
7						
5						

RAWINSONDE DATA

Average monthly values

WAYCROSS, GA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	44	12.8	11.2	25	.6
1000	31	149	15.4	10.3	23	.6
950	31	585	14.5	6.2	22	3.3
900	31	1,040	12.6	4.6	24	6.0
850	31	1,519	10.3	.1	24	7.9
800	31	2,023	9.0	-5.1	25	[illegible]
750	31	2,555	6.7	-7.9	25	10.4
700	31	3,119	3.[illegible]	-11.8	26	13.3
650	31	3,717	.7	-15.2	26	15.[illegible]
600	31	4,356	-2.6	-19.5	26	18.4
550	31	5,040	-7.3	-22.6	26	21.3
500	31	5,775	-12.4	-27.9	26	24.3
450	30	6,570	-17.5	-31.4	26	27.[illegible]
400	30	7,442	-23.2	-35.5	27	30.[illegible]
350	30	8,409	-30.[illegible]	-41.6	27	34.1
300	30	9,484	-38.8	-47.6	27	38.1
250	29	10,707	-48.3		27	40.9
200	29	12,148	-56.9		28	43.2
175	29	12,987	-59.7		27	42.0
150	29	13,945	-62.2		28	38.1
125	29	15,064	-65.2		28	31.2
100	29	16,411	-68.7		28	24.3
80	28	17,741	-69.7		28	16.[illegible]
70	28	18,539	-68.6		28	13.7
60	28	19,468	-66.2		28	7.9
50	27	20,585	-62.8		28	5.0
40	27	21,970	-60.1		31	3.[illegible]
30	27	23,777	-57.[illegible]		30	2.[illegible]
25	27	24,939	-54.1		28	5.0
20	27	26,381	-51.1		27	6.9
15	26	28,267	-47.4		26	12.1
10	21	30,987	-42.0		25	14.7
7	7	33,400	-39.7			

WEST PALM BEACH, FL
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	29	7	20.4	17.3	11	1.9
1000	29	156	21.4	17.0	12	3.3
950	29	599	18.0	14.5	13	5.0
900	29	1,061	15.5	9.7	15	3.0
850	29	1,545	14.0	2.2	20	1.6
800	29	2,055	12.[illegible]	-3.5	23	2.8
750	29	2,595	10.6	-8.4	25	4.7
700	29	3,166	7.4	-10.5	25	6.7
650	29	3,772	4.3	-13.5	26	7.6
600	29	4,419	.8	-18.5	27	9.4
550	29	5,113	-3.4	-22.1	28	11.7
500	29	5,859	-8.4	-24.8	28	15.1
450	29	6,668	-14.1	-29.4	28	17.8
400	28	7,552	-20.3	-36.0	28	20.4
350	28	8,529	-27.7	-47.1	28	23.7
300	28	9,615	-36.4	-49.6	28	25.4
250	28	10,853	-46.2		29	26.7
200	28	12,300	-56.[illegible]		29	29.9
175	27	13,136	-61.1		29	29.[illegible]
150	27	14,085	-64.[illegible]		28	26.[illegible]
125	27	15,194	-67.1		28	23.[illegible]
100	27	16,525	-71.5		28	16.[illegible]
80	27	17,835	-73.[illegible]		28	[illegible].4
70	27	18,619	-72.2		28	6.7
60	27	19,533	-69.2		30	2.9
50	27	20,635	-64.1		02	1.5
40	27	22,017	-59.5		02	2.5
30	26	23,832	-55.8		03	[illegible]
25	26	25,003	-52.6		03	1.1
20	26	26,456	-49.1		17	1.5
15	25	28,356	-45.1		24	2.4
10	17	31,098	-42.2		23	6.7
7	9	33,494	-39.1			

WINNEMUCCA, NV
867 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,312	-2.1	-10.9	25	.8
1000						
950						
900						
850	31	1,472	.3	-9.9	26	1.6
800	31	1,956	-2.3	-11.6	29	4.0
750	31	2,465	-5.9	-13.5	28	5.2
700	31	3,002	-9.2	-16.[illegible]	29	6.0
650	31	3,571	-12.7	-21.4	29	7.3
600	31	4,177	-16.7	-25.[illegible]	30	[illegible].9
550	31	4,825	-21.1	-30.1	29	10.6
500	31	5,521	-26.0	-35.2	30	12.[illegible]
450	31	6,276	-31.1	-40.5	30	13.3
400	30	7,105	-36.9	-43.[illegible]	31	14.3
350	30	8,020	-43.2	-46.7	31	16.7
300	30	9,041	-49.2		31	18.[illegible]
250	30	10,224	-53.7		30	19.5
200	30	11,652	-54.9		29	20.1
175	30	12,506	-54.1		28	20.7
150	29	13,490	-54.0		28	17.4
125	28	14,656	-55.8		27	17.0
100	28	16,073	-56.9		27	13.2
80	28	17,483	-57.8		27	9.4
70	28	18,326	-57.6		26	7.1
60	28	19,302	-56.9		25	6.0
50	28	20,458	-56.4		26	4.4
40	26	21,875	-56.6		27	1.2
30	24	23,707	-55.3		07	1.1
25	24	24,872	-54.6		07	3.5
20	24	26,306	-53.2		06	5.6
15	21	28,165	-51.6		06	6.9
10	8	30,816	-48.4			
7						

WINSLOW, AZ
848 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,487	-1.0	-8.1	21	1.9
1000						
950						
900						
850	12	1,519	-.4	-13.5	19	.7
800	31	1,957	2.4	-12.1	26	5.1
750	31	2,475	-1.2	-14.3	26	6.4
700	31	3,022	-4.6	-17.3	25	6.9
650	31	3,602	-8.0	-20.9	26	8.6
600	31	4,219	-11.9	-25.5	26	10.0
550	31	4,879	-16.7	-30.2	26	11.7
500	31	5,588	-21.5	-35.1	26	15.5
450	31	6,357	-26.9	-38.9	26	18.3
400	31	7,196	-32.7	-42.8	26	20.9
350	31	8,127	-38.9	-47.7	26	25.5
300	31	9,169	-44.8		26	29.8
250	31	10,373	-50.6		26	35.1
200	31	11,820	-52.5		26	38.4
175	30	12,682	-53.8		26	37.1
150	30	13,669	-55.6		26	33.1
125	28	14,828	-58.3		26	27.8
100	27	16,220	-61.2		26	22.4
80	24	17,600	-61.6		26	16.[illegible]
70	23	18,428	-62.3		26	13.[illegible]
60	23	19,382	-61.2		25	11.2
50	22	20,518	-59.3		25	[illegible].7
40	20	21,915	-58.5		27	3.1
30	18	23,724	-57.6		29	1.9
25	16	24,879	-55.7		26	1.4
20	16	26,306	-54.5		33	1.9
15	13	28,167	-51.3		05	3.0
10	11	30,838	-47.1			
7						

YAKUTAT, AK
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	12	-.4	-2.3	06	1.4
1000	19	108	1.0	-3.1	10	1.5
950	31	451	-.9	-4.3	14	2.9
900	31	881	-3.9	-6.3	16	3.4
850	31	1,329	-7.2	-9.5	18	3.8
800	31	1,799	-10.3	-14.2	19	4.1
750	31	2,293	-13.7	-19.2	20	4.4
700	31	2,814	-17.0	-22.6	22	4.7
650	31	3,367	-20.6	-27.7	24	5.6
600	31	3,954	-24.3	-30.6	25	6.8
550	31	4,583	-28.5	-36.1	26	8.1
500	31	5,260	-33.2	-40.4	27	9.8
450	31	5,993	-38.1	-44.0	27	11.8
400	31	6,794	-43.9	-46.1	28	14.8
350	31	7,684	-48.6		28	18.0
300	31	8,686	-52.0		27	17.8
250	31	9,867	-51.7		28	17.7
200	31	11,318	-50.4		27	14.6
175	30	12,193	-49.3		27	14.0
150	30	13,205	-48.5		27	12.6
125	30	14,404	-49.1		27	10.7
100	30	15,866	-49.6		27	8.8
80	30	17,328	-49.6		27	7.6
70	30	18,204	-49.4		27	6.4
60	30	19,213	-49.5		27	4.6
50	29	20,413	-49.2		27	3.7
40	28	21,879	-49.0		30	1.2
30	28	23,773	-47.8		03	.3
25	27	24,980	-47.3		05	1.5
20	26	26,456	-46.3		06	2.9
15	24	28,367	-45.3		06	4.1
10	16	31,077	-42.9		04	7.6
7						

◆ YAP, CAROLINE IS.
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	14	27.8	23.2	07	4.6
1000	31	102	26.2	22.1	07	6.1
950	31	553	22.5	19.9	07	[illegible].7
900	31	1,022	19.5	15.0	07	11.2
850	31	1,513	16.[illegible]	9.9	07	10.[illegible]
800	31	2,029	14.7	4.4	07	9.5
750	31	2,573	12.4	.8	07	8.1
700	31	3,150	10.1	-5.2	07	6.[illegible]
650	31	3,763	7.7	-9.4	08	6.5
600	31	4,419	4.7	-14.8	08	7.6
550	31	5,123	.8	-18.6	08	9.2
500	31	5,882	-3.8	-22.6	08	10.7
450	31	6,706	-8.9	-26.7	08	11.3
400	31	7,608	-14.[illegible]	-31.4	09	10.4
350	31	8,608	-21.9	-36.6	09	10.1
300	31	9,720	-30.4	-42.7	10	8.3
250	31	10,990	-40.3	-51.9	11	8.3
200	31	12,471	-52.9		12	10.0
175	31	13,320	-59.8		12	11.5
150	31	14,265	-67.5		12	13.3
125	31	15,342	-75.4		11	15.8
100	31	16,611	-81.8		10	13.[illegible]
80	31	17,863	-80.1		09	[illegible]
70	31	18,627	-75.3		09	2.1
60	31	19,531	-70.9		08	.8
50	31	20,627	-65.6		08	[illegible].3
40	29	21,997	-61.[illegible]		09	13.7
30	27	23,801	-56.3		09	23.1
25	27	24,967	-53.7		09	24.3
20	27	26,419	-48.4		09	26.1
15	26	28,327	-45.[illegible]		09	24.3
10	22	31,072	-39.8		10	17.8
7	12	33,524	-35.6			

YUCCA FLAT, NV
879 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,198	-2.0	-11.9	32	1.2
1000						
950						
900						
850	31	1,467	3.[illegible]	-12.[illegible]	33	3.4
800	31	1,955	.[illegible]	-14.5	33	3.0
750	31	2,469	-3.0	-16.8	33	2.[illegible]
700	31	3,013	-6.4	-19.[illegible]	32	3.0
650	31	3,588	-9.[illegible]	-23.[illegible]	30	4.9
600	31	4,201	-13.[illegible]	-28.0	29	6.[illegible]
550	31	4,856	-18.2	-31.7	29	9.4
500	31	5,561	-23.[illegible]	-35.[illegible]	29	11.4
450	31	6,323	-28.[illegible]	-40.3	29	13.4
400	31	7,155	-34.7	-44.0	28	16.0
350	31	8,079	-40.4	-46.[illegible]	28	18.[illegible]
300	31	9,113	-46.8		28	19.3
250	31	10,307	-52.0		28	22.2
200	31	11,743	-54.1		27	25.5
175	31	12,600	-54.1		27	24.8
150	31	13,588	-54.9		27	23.8
125	31	14,749	-56.8		27	21.1
100	31	16,156	-59.1		27	16.1
80	30	17,549	-60.5		26	13.1
70	30	18,380	-60.4		26	11.1
60	[illegible]	19,344	-59.1		26	7.5
50	30	20,490	-58.0		26	5.3
40	28	21,895	-57.8		26	[illegible].7
30	28	23,714	-56.[illegible]		30	1.[illegible]
25	27	24,873	-55.3		03	1.4
20	26	26,303	-53.8		05	4.2
15	17	28,162	-50.2		06	4.[illegible]
10						
7						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, NM

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
[illegible]	1.07	1.19	1.29	(1.41)	----	----	----	----	----
[illegible]	----	----	1.20	1.28	----	1.36	1.06	.91	.77
[illegible]	---	----	---	1.06	----	----	----	----	----
[illegible]	.90	.96	1.14	1.34	1.45	1.31	1.09	.96	.79
7----	.99	1.08	1.21	1.34	1.46	(1.25)	1.05	.91	.79
8----	----	----	----	----	(1.42)	----	----	----	----
9----	----	----	----	1.31	----	----	(1.04)	----	----
10----	----	----	----	----	----	----	----	----	(.53)
12----	.87	.97	1.13	1.32	1.52	1.39	1.18	.99	.90
13----	.99	1.10	1.24	1.40	1.54	1.38	1.21	1.09	1.01
14----	(.75)	(.88)	1.29	1.48	---	----	----	----	----
15----	(.70)	----	----	---	----	----	----	----	----
17----	----	----	----	----	----	----	----	----	.90
18----	.92	1.01	1.10	1.37	1.53	1.37	1.16	1.08	.98
19----	.77	.89	1.04	1.26	1.47	----	----	----	----
20----	----	(1.12)	1.23	(1.34)	1.50	1.32	1.14	.99	.84
21----	.97	1.06	1.19	1.32	1.52	1.32	1.11	.92	.77
22----	.90	1.01	1.14	1.30	1.48	1.35	1.18	1.06	.95
23----	.77	.89	1.06	1.23	----	----	----	----	----
24----	----	----	----	1.23	1.40	1.22	1.04	.88	.77
25----	.89	1.00	1.12	----	----	----	----	----	----
29----	----	----	----	----	----	----	(1.06)	.92	.83
30----	.91	1.01	1.15	1.27	1.45	----	----	----	----
31----	----	----	----	----	----	----	(.97)	(.89)	----
Averages	.91	1.01	1.17	1.31	1.48	1.33	1.12	.97	.86

MADISON, WI

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	----	----	----	S 1.31	S 1.38	S 1.31	S 1.15	S 1.04	S .95
7-----	S 90	S 1.00	S 1.13	S 1.29	S 1.29	S 1.18	----	----	----
9-----	----	----	----	----	----	S 1.17	S 1.04	S .92	S .83
15----	I .44	I .56	I .58	I .78	----	----	----	----	----
16----	S 92	S 1.03	S 1.15	S 1.29	S 1.38	S 1.24	S 1.08	S .94	S .85
19----	H 72	H .79	H .92	M 1.17	M 1.29	----	----	----	----
22----	----	S 96	S 1.07	S 1.22	S 1.31	----	----	----	----
23----	----	----	----	----	S 1.36	S 1.31	S 1.21	S 1.12	S 1.06
25----	I 49	I 59	I .71	M .92	M 1.11	M .90	M .72	H .57	H .46
29----	----	----	----	----	----	S 1.18	S .97	S .85	M .70
Averages	.69	.82	.93	1.14	1.30	1.18	1.03	.91	.81

OMAHA, NE

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78

NO DATA RECEIVED

BLUE HILL OBSERVATORY, MA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
3-----	.74	.82	.91	1.08	1.13	1.04	88	----	----
8-----	.71	.76	----	1.02	1.15	1.03	.91	.80	68
19----	----	.67	.77	.97	1.13	----	.94	.86	.76
25----	----	----	.87	1.09	1.15	----	.95	.77	.72
27----	.58	.70	.90	.96	1.10	.96	----	.68	----
30----	----	---	----	H .88	H 1.00	H .86	H .72	H .60	H .56
Averages	.68	.74	.86	1.00	1.11	.97	.88	.74	.68

MAUNA LOA OBSERVATORY, HA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36

NO DATA RECEIVED

TUCSON, AZ

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	----	----	----	----	----	1.37	1.24	1.10	1.01
2-----	.71	.85	.98	1.19	1.47	1.32	----	----	----
3-----	.96	1.07	1.19	1.32	1.42	1.19	.97	.81	70
4-----	----	----	1.11	1.30	1.44	1.28	1.06	.96	.87
5-----	.85	.96	1.07	1.27	1.42	1.29	1.07	.94	.85
6-----	.87	.96	1.13	1.31	1.44	1.31	1.07	.94	.82
7-----	.96	1.07	1.20	1.35	----	----	----	----	----
9-----	----	----	1.12	1.27	1.44	1.25	1.11	.97	.86
10----	D .07	D .19	D .44	D .79	D 1.28	D .93	D 89	D .76	D .62
11----	D .24	D .35	D .44	D .75	D 1.15	D 1.03	D 89	D 75	D .64
12----	.90	1.01	1.14	1.32	1.49	1.32	1.12	.99	.92
13----	.81	.92	1.03	1.23	1.37	1.16	.97	.84	----
14----	.80	.92	1.09	1.21	1.35	1.22	1.05	.93	.83
15----	----	----	1.09	1.24	1.43	1.24	1.03	.91	.79
17----	----	----	----	----	----	1.34	1.20	1.08	.99
18----	.95	1.05	1.16	1.32	1.50	1.32	1.17	1.02	.94
19----	.92	1.02	1.17	1.30	1.53	1.31	1.17	1.02	.95
20----	.94	1.04	1.17	1.32	1.42	1.28	1.09	.90	.75
21----	.85	.96	1.11	1.29	1.41	1.26	1.11	.99	.89
22----	.91	1.01	1.13	1.30	1.46	1.29	1.13	1.01	.93
23----	.83	.94	1.08	1.23	1.40	1.22	1.05	.92	.82
24----	.76	.87	1.02	1.21	1.35	1.24	1.05	.93	.83
25----	.85	.94	1.08	1.26	----	1.15	.95	.79	.65
27----	----	----	----	----	----	1.21	1.03	.90	.80
28----	.81	.93	1.05	1.24	1.38	1.22	----	----	----
29----	----	----	----	----	1.38	----	----	----	----
30----	.86	.97	1.10	1.27	----	1.27	----	----	----
31----	.86	.96	1.10	1.29	1.44	1.26	1.08	.94	.83
Averages	.80	.90	1.05	1.23	1.41	1.24	1.07	.93	.83

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

MARCH 1971

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	19	23	- 18	- 8	- 33	- 69	- 37	- 52	0	- 17	- 32	- 78	- 31	- 26	- 42	- 13	- 57	- 57	- 52	- 30	- 43	- 39	- 11	- 61	- 18	- 31	- 13	- 19	1	5	- 52	- 31

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 A) at Ames, Iowa

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg
Langleys. . .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled 'PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA.'

Units: Milli-atmo-cms

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+ And also on an earlier date or dates.
D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
+ And also on an earlier date or dates.
U Indicates Urban site.
R Indicates Rural site.
Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

STORM SUMMARY:

° Includes crop damage.
C Crop damage.
* No occurrence of storms or unusual weather phenomena reported.
@ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡ No Storm Data Report received for this State.
<> Report Incomplete.
† Storm damages are placed in categories varying from 1 to 9 as follows:
  1 Less than $50
  2 $50 to $500
  3 $500 to $5,000
  4 $5,000 to $50,000
  5 $50,000 to $500,000
  6 $500,000 to $5 Million
  7 $5 Million to $50 Million
  8 $50 Million to $500 Million
  9 $500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.
NA Not available.

FLOOD STAGE DATA:

# Highest Stage Observed
1/ Continued at end of month
___ Highest Stage of Record
E Estimated
P Provisional (Flood Stage)
U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+ Observations for these stations are scheduled at 0000 G.C.T.
† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

( )	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable	N	Sand
BN	Blowing Sand	GF	Ground Fog	K	Smoke	S	Slight Haze-indeterminable
D	Dust	H	Haze	KI	Intense Smoke		
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

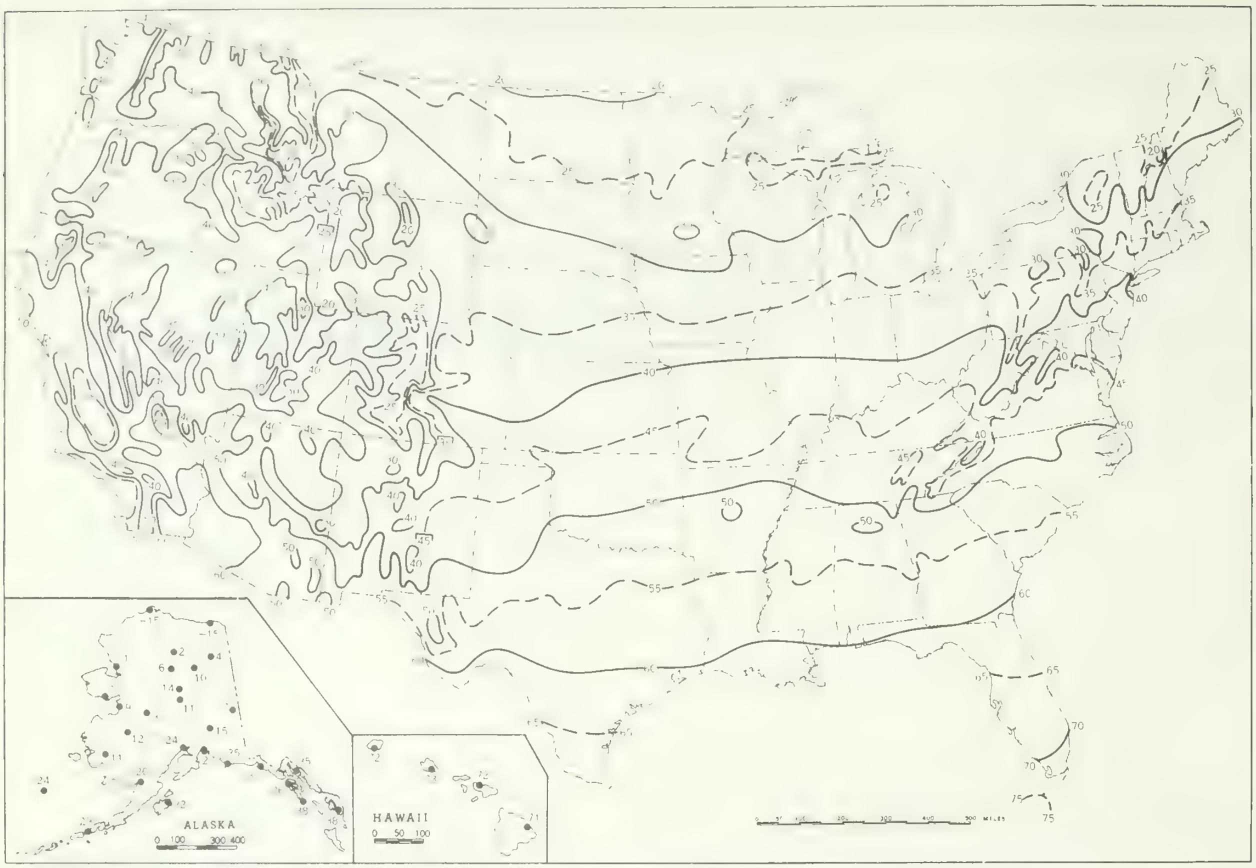
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

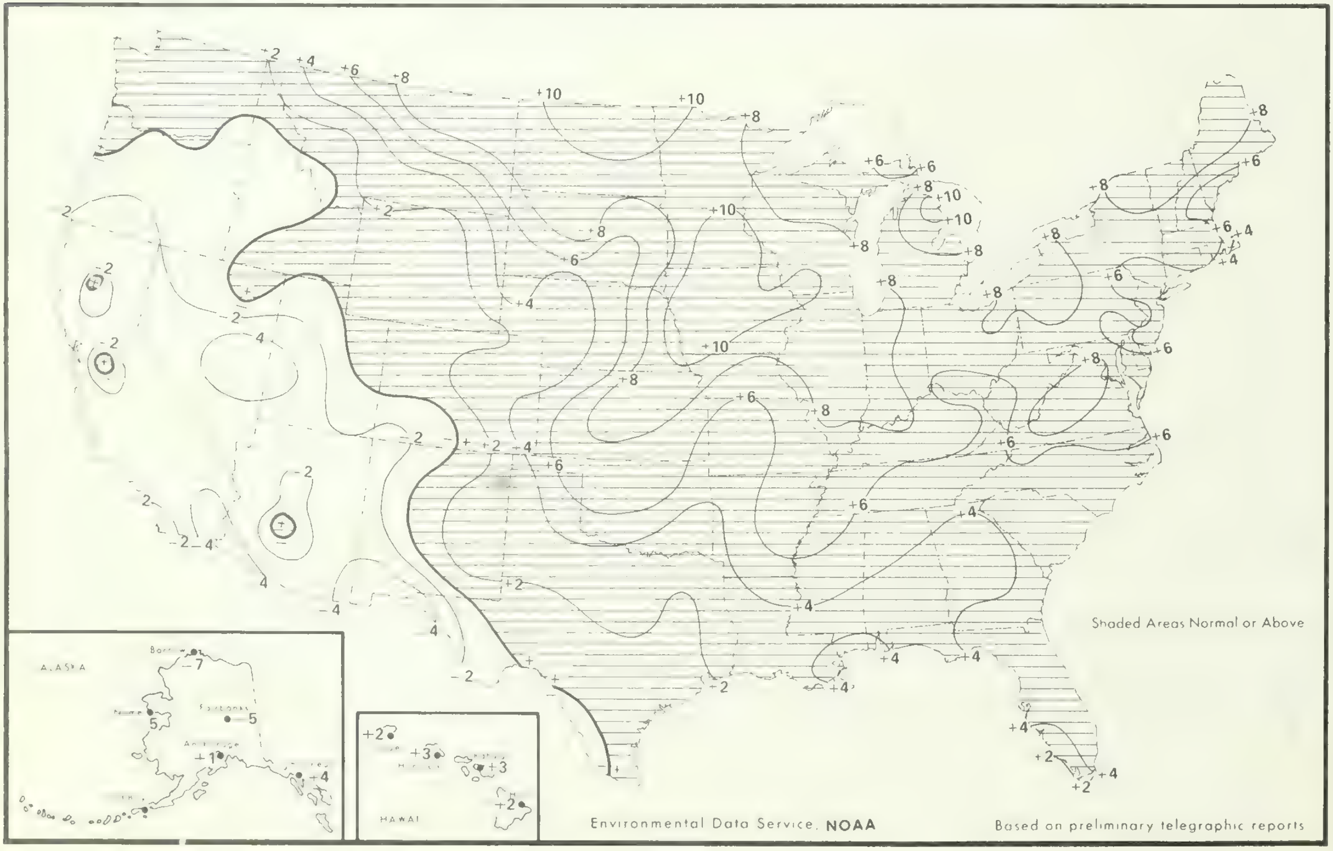
SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not beer checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded $\Omega\ \Omega\ \Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), March.



B. Temperature Departure from 30 - Year Mean (F 1941-70), March 1977

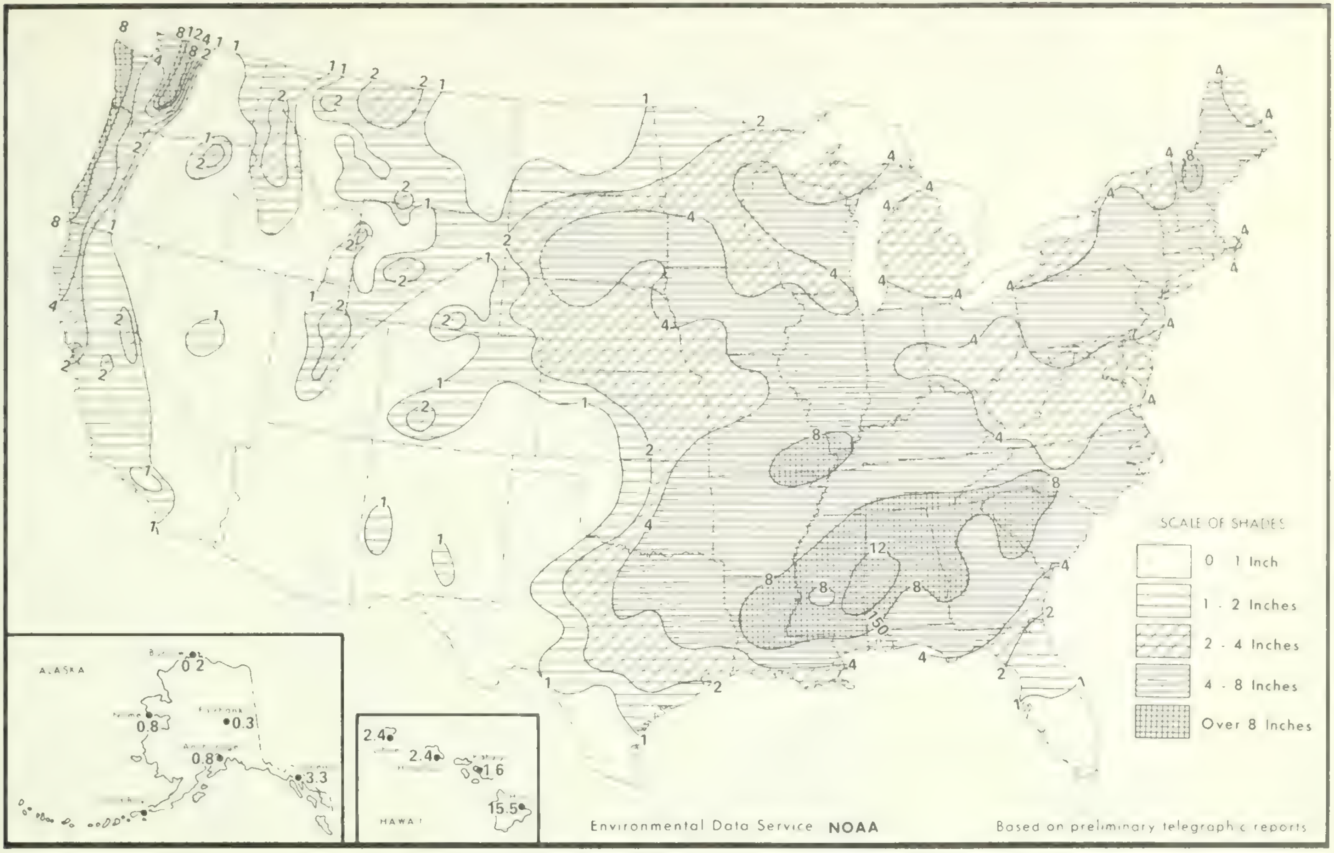


Shaded Areas Normal or Above

Environmental Data Service, **NOAA**

Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), March 1977



B. Percentage of Normal Precipitation, March 1977

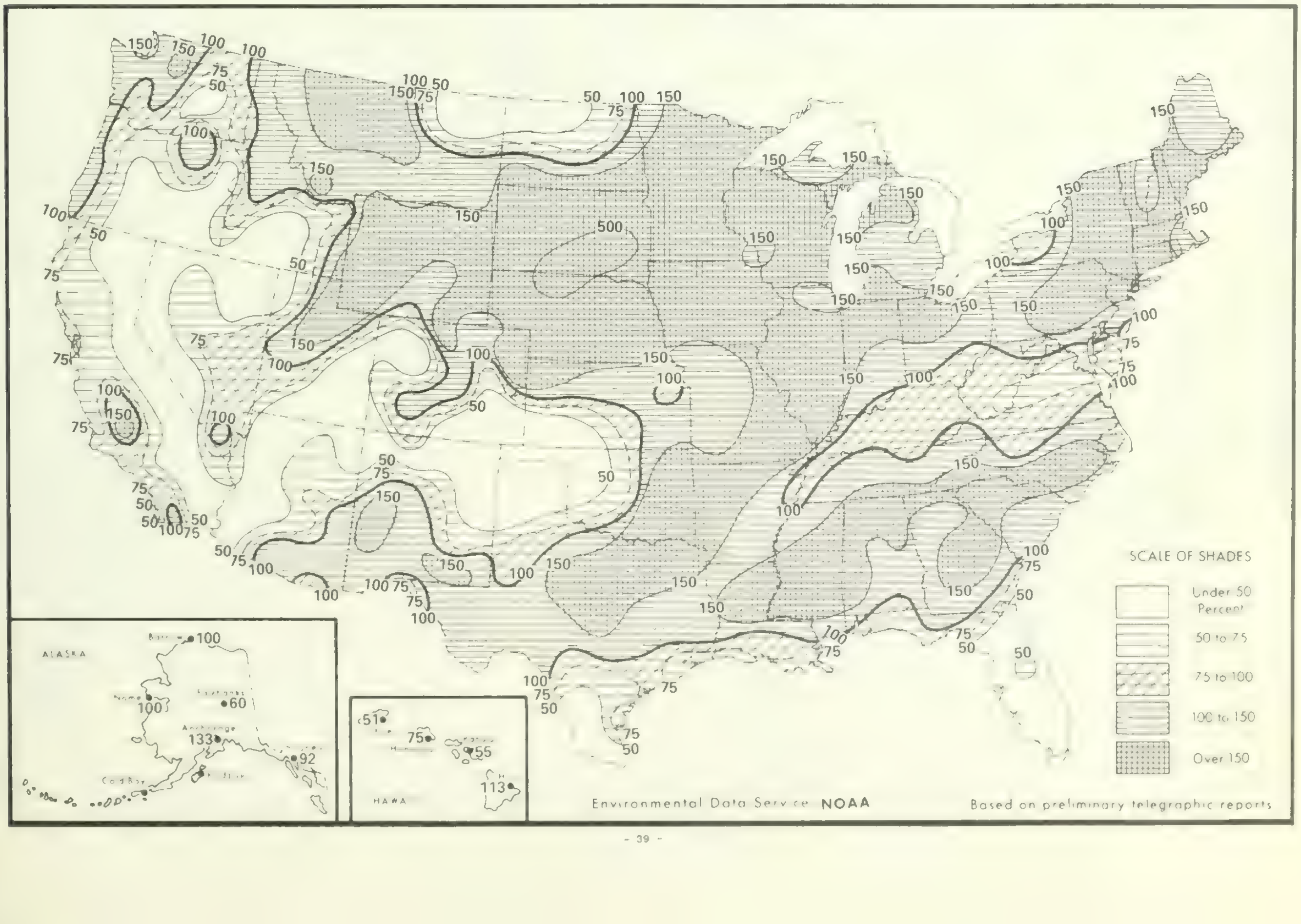
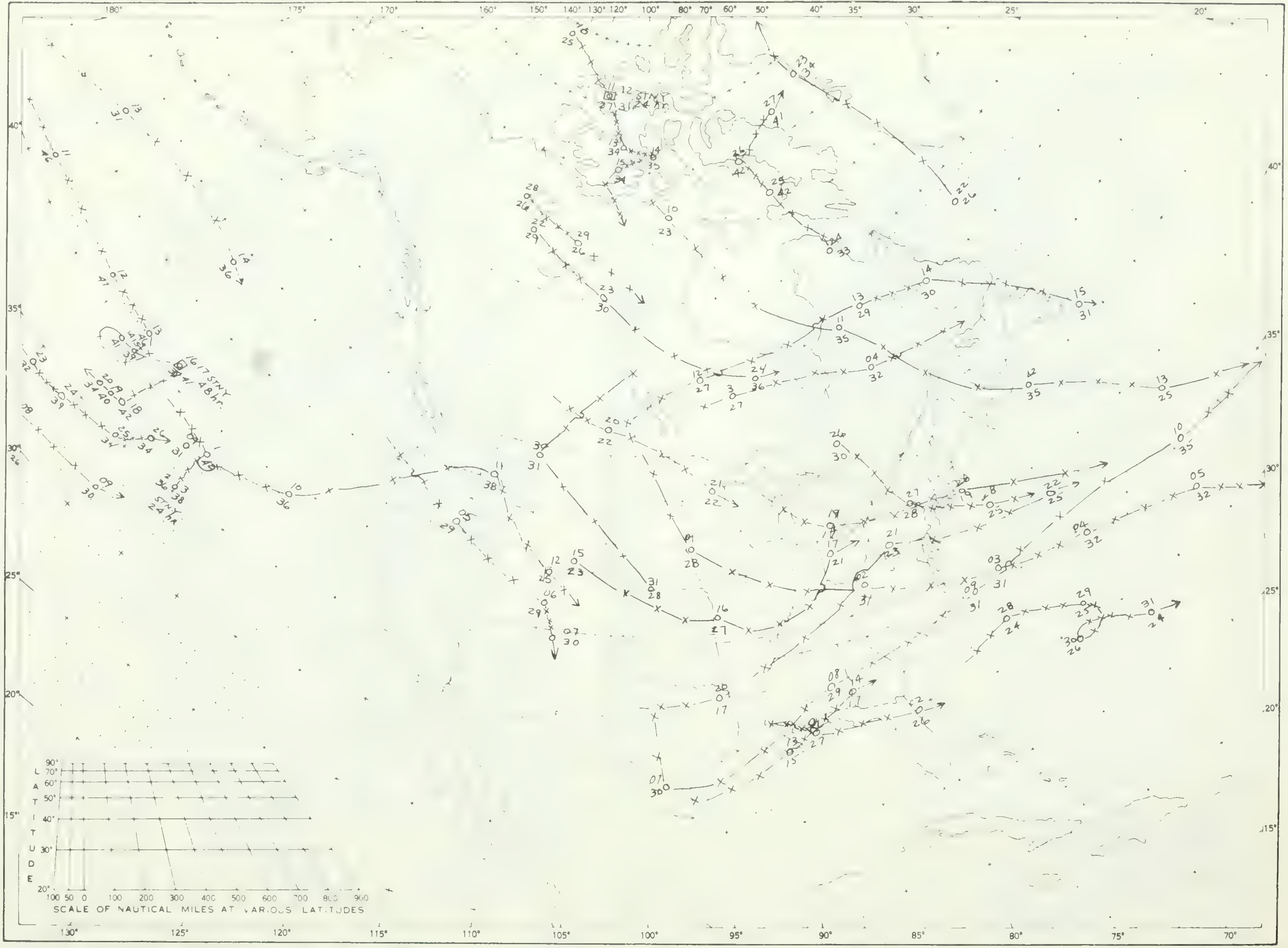
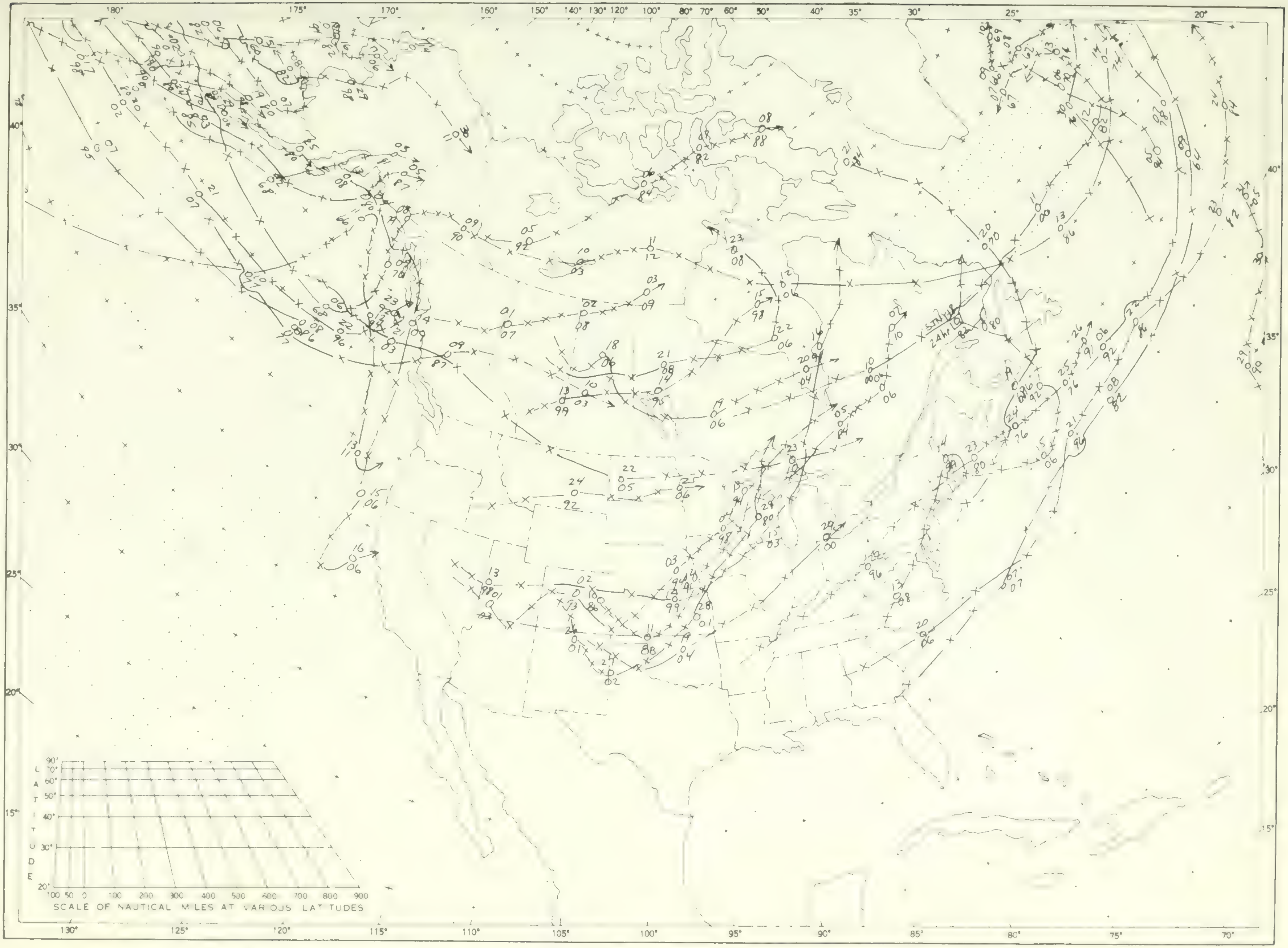


Chart III Tracks of Centers of Anticyclones at Sea Level, March 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. **X's** indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, March 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

3

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APRIL 1977 VOLUME 28 NUMBER 4

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

OCT 18 1977

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

APRIL 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: Precipitation was well above normal in April from New Mexico northeastward through southern Minnesota and parts of northern Wisconsin. The previously dry winter wheat area of northern Texas, western Oklahoma, and Kansas, and eastern Colorado measured 2 to 4 inches of rain during the latter part of the month. Heavy rain caused flooding early in the month in the Tennessee, Kentucky, and West Virginia portions of Appalachia. Later, floods occurred in central Texas and southeastern Louisiana.

Average temperatures for April were above normal in much of the Nation; this promoted early pasture growth and brought soil temperatures up for some early planting. The exception to the warm temperatures occurred in central and southern Texas and along the Gulf Coast where cool, wet weather kept temperatures lower than normal.

In early April, locally heavy rain and thunderstorms carried additional moisture to the thirsty soils of the middle Mississippi Valley. The showers moved further north by the 10th. Elsewhere, during this period, thunderstorms produced heavy rain and some tornadoes from central Louisiana to central Virginia. Southwestern Virginia and southern West Virginia experienced serious flooding. Very little rainfall was measured from the middle United States westward to the Cascades. Some rain fell in northern California and along the northwest coast. Isolated showers and snow showers hit parts of the northern Rockies where temperatures were cooler than normal.

In the week of mid-April, stagnating weather patterns produced moderate to heavy precipitation from Texas northward to South Dakota and to the Great Lakes. This marked the beginning of the spring rains in the important winter wheat areas of the Texas and Oklahoma Panhandles, western Kansas, and eastern Colorado. The rain was heavy in central Texas where flooding occurred, and was moderate northward into South Dakota.

Temperatures over the Nation averaged well above normal in most areas, about 18 to 20° higher in Iowa and parts of the Midwest.

As the month passed its mid-point the area of rain, thunderstorms, and other severe weather moved eastward. Numerous tornadoes plagued the lower Mississippi Valley and very heavy rain flooded an area in southeast Louisiana where some points measured as much as 14 inches in three days.

Cooler weather dominated an area from Texas to western Nebraska, but the rest of the Nation continued with a warm spell. An area around the Great Lakes averaged 10 to 13° warmer than normal for the week ending on the 24th.

Late April brought cooler temperatures to most of the eastern United States as a late winter air mass moved southward through the Great Lakes area. Frost whitened areas from Ohio through New England.

Rain was absent or very light in the Southeast, the Southwest and from the northern Rockies through the northern Great Lakes area. Some late season rain moved on to the West Coast. Portions of northern California and parts of the west slopes of the Cascades had nearly an inch of rain. Elsewhere, showers and thunderstorms were reported from Texas to southeastern Wyoming and from Kansas eastward to the mid-Atlantic States. A few tornadoes and hailstorms marred the month's end.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

APRIL 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Anniston FAA AP	92	16	Valley Head	21	6	Elrod	8.59	Eufaula Wildlife Refuge	.86
Alaska	3 Stations	68	25+	Umiat	-43	4	Mac Leod Harbor	22.37	University Exp Station	.04
Arizona	Tacna 3 NE	101	27	Hawley Lake	- 9	4	Payson	2.20	17 Stations	.00
Arkansas	2 Stations	90	16	Deer	27	5	Sparkman	7.86	Mulberry 6 NNE	.86
California	Death Valley	104	24	White Mountain 2	- 9	3	Whiskeytown Reservoir	2.16	135 Stations	.00
Colorado	3 Stations	92	10+	Climax	- 8	3	Springfield 7 WSW	5.03	2 Stations	.10
Connecticut	2 Stations	90	22+	Bulls Bridge Dam	12	10	West Hartford	5.92	Round Pond	2.95
Delaware	2 Stations	88	13+	6 Stations	25	10+	Wilmgton Porter Reservoir	5.88	Georgetown 5 SW	2.20
Florida	Clewiston U. S. Engineers	96	4	Fountain 3 SSE	30	7	Pompano Beach	7.05	Arcadia	.06
Georgia	2 Stations	94	20+	2 Stations	27	7	Ellijay	8.66	Newington 2 NE	.40
Hawaii	Puukohola Heiau 98.1	90	9	Mauna Loa Slope Obs	30	17+	Hilo Country Club 86.6	39.05	Waimea 947	.36
Idaho	3 Stations	97	25+	Stanley	- 8	3	Grangeville 11 SE	1.30	3 Stations	.00
Illinois	4 Stations	90	18+	Galesburg	17	5	Cairo WSO CI	6.32	Edwardsville 1 NE	.56
Indiana	2 Stations	90	19	Rensselaer	16	6	English	6.57	Kentland	1.13
Iowa	Britt	90	27	Sibley	12	6	Titonka 5 NE	6.16	Creston 2 SW	.94
Kansas	Saint Francis	93	10	Colby 1 SW	12	4	Atlanta	8.11	Brewster	.92
Kentucky	2 Stations	91	19+	Tomahawk 1 WSW	20	9	Baxter	10.12	Fords Ferry Dam 50	2.22
Louisiana	Vermilion Lock	90	10	Ashland 2 S	34	6	Grand Coteau	14.89	Haynesville 2 WSW	1.46
Maine	2 Stations	86	22+	Rangeley	- 9	10	East Hiram	4.55	2 Stations	1.54
Maryland	Baltimore WSO CI	93	12	McHenry 2 NW	11	9	Emmitsburg 2 SE	5.55	Patuxent River	1.52
Massachusetts	Chester 2	91	13	Cummington Hill	9	9	Borden Brook Reservoir	6.20	Nantucket FAA AP	2.20
Michigan	Detroit Metro WSO AP	89	12	Herman	-15	8	Dearborn	6.08	Big Rapids Waterworks	.92
Minnesota	2 Stations	92	11+	Tower 3 S	- 1	8	Albert Lea	5.01	Argyle 4 E	.05
Mississippi	9 Stations	89	20+	2 Stations	29	6	Natchez	14.91	Gulfport Naval Center	2.06
Missouri	6 Stations	90	17	2 Stations	22	6+	Portageville WSO/AG	5.80	Steelville 2 N	.51
Montana	3 Stations	92	26+	Cooke City	-11	3	Lewistown 10 S	1.51	4 Stations	.00
Nebraska	2 Stations	94	11+	Agate 3 E	9	4	Loup City 1 N	8.08	Virginia	1.38
Nevada	Sunrise Manr Las Vegas	100	24	Ely WSO AP	4	3	2 Stations	.84	13 Stations	.00
New Hampshire	Massabesic Lake	86	23	Mount Washington	-14	9	Mount Washington	8.90	First Conn Lake	2.95
New Jersey	Moorestown	92	12	High Point Park	12	9	High Point Park	7.14	Atlantic City	1.89
New Mexico	Carlsbad FAA AP	92	29	Cuba	- 6	4	Grenville	4.68	3 Stations	.00
New York	Greenport Power House	92	14	Old Forge	- 5	9	Piseco	6.96	Troupsburg 4 NE	1.29
North Carolina	Hamlet	92	12	Grandfather Mountain	20	6	Lake Toxaway 2 SW	9.04	Greenville	.88
North Dakota	4 Stations	92	10+	2 Stations	5	4+	Wahpeton 3 N	2.15	6 Stations	T
Ohio	2 Stations	90	19+	2 Stations	13	9+	Toledo Blade	7.25	St. Marys 3 W	2.01
Oklahoma	Buffalo	96	27	Boise City 2 E	20	4	Holdenville	6.93	Sallisaw	1.13
Oregon	Spray	96	24	Fremont	4	17	Government Camp	4.14	6 Stations	.00
Pennsylvania	Philadephia WSO AP	92	12	Francis E Walter Dam	6	7	Williamsport WSO AP	6.79	Raymond	1.10
Puerto Rico	3 Stations	94	20+	Adjuntas Substation	50	5	Rio Grande El Verde	20.14	Santa Isabel 2 NE	.18
Rhode Island	Providence WSO AP	86	22+	North Foster 1 E	19	9	Kingston	4.40	Providence WSO AP	3.35
South Carolina	Ridgeland 5 NE	95	15	Caesars Head	22	6	Caesars Head	5.67	Edisto Island 1 WNW	.40
South Dakota	2 Stations	95	9	Deerfield 4 NW	- 2	1	Chamberlain	4.20	Ludlow	.04
Tennessee	4 Stations	90	17+	2 Stations	23	6	Tullahoma	12.36	Covington 1 W	3.10
Texas	3 Stations	97	30+	3 Stations	21	4	Jourdanton	13.83	2 Stations	.00
Utah	Saint George	91	23	Silver Lake Brighton	- 1	3	Flaming Gorge	1.77	5 Stations	.00
Vermont	Vernon	85	14	Mount Mansfield	2	9	Mount Mansfield	6.60	South Hero	2.08
Virginia	2 Stations	92	13+	Big Meadows	14	7	Pennington Gap	10.47	Emporia 1 WNW	1.25
Virgin Islands	2 Stations	90	29	Cruz Bay	60	1	Lameshur Bay	3.24	Estate Rust Op Twist	.84
Washington	Pomeroy	98	24	Chesaw 4 NNW	10	17	Tolt South Fork Reservoir	6.11	7 Stations	.00
West Virginia	Wayne 2	90	13	3 Stations	11	9+	Flat Top	7.93	Moorefield 2 SSE	1.99
Wisconsin	Ashland Exp Farm	89	10	Newald 1 N	- 6	8+	South Pelican	5.06	West Bend	1.59
Wyoming	2 Stations	87	10+	Burgess Junction	-13	3	Tennyson	4.37	Fontenelle Dam	.01

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No of days		Snow, Ice pellets		Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)			Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
												Max 32.2 °C or above	Min 0 C or lower						25 mm or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	997.0	1019.5	25.7	11.2	18.4	1.1	31.7	16	1.7	6	0	0	10.6	66	171	54	75	8	7	0	0	0.8	20	21.9	W	4	12	8	10	5.1	61
HUNTSVILLE	190	995.9	1019.2	24.2	10.9	17.6	1.1	30.6	17	1.1	6	0	0	10.0	65	170	48	59	11	5	0	0	0.8	21	14.3	27	5	14	4	12	5.0	
MOBILE	64	1011.9	1019.8	26.1	14.1	20.1	0.2	28.9	17+	5.0	6	0	0	12.8	68	69	-73	59	5	3	0	0	1.3	16	10.3	18	4	17	3	10	4.3	
MONTGOMERY	59	1012.5	1019.9	26.2	12.4	19.3	0.9	31.1	12	3.3	6	0	0	11.7	66	39	-74	23	5	4	0	0	1.0	23	15.6	SW	4	17	4	9	3.9	73
ALASKA												B																				
ANCHORAGE	35	1002.7	1007.7	5.4	-1.3	2.1	0.2	13.9	23	-9.4	13	0	19	-3.9	67	49	34	15	12	0	356	279	0.8	32	10.3	33	26	4	7	19	7.7	37
ANNETTE	34	1012.2	1016.4	11.1	2.9	7.0	1.0	20.0	25+	0.0	30+	0	2	2.2	76	186	-37	36	15	0	79	T	2.1	16	18.3	15	11	0	5	25	8.8	
BARROW	9	1015.9	1016.3	-17.5	-25.1	-21.3	-3.1	-0.6	24	-35.0	5	0	30	-23.9	79	1	-4	1	4	0	18	178	1.0	9	9.8	24	22	12	8	10	4.7	
BARTER ISLAND	12	1014.2	1016.2	-15.3	-24.9	-20.1	-2.4	-1.1	25+	-36.1	4	0	30	-22.8	76	7	2	4	7	0	97	254	0.8	22	17.9	27	27	11	6	13	5.3	
BETHEL	38	1004.1	1009.8	-5.6	-14.7	-10.1	-5.9	7.2	30	-28.9	11	0	30	-13.3	77	13	2	4	11	0	257	813	1.6	34	17.4	1	4	11	5	14	6.1	
BETTLES	196	986.8	1012.1	-3.0	-16.4	-9.7	-3.3	8.3	23+	-31.1	7	0	29	-14.4	69	18	2	7	6	0	163	787	1.5	36								
BIG DELTA	386			4.2	-5.9	-0.8	0.6	17.2	23	-21.7	1	0	25			5	-3	2	4		74	152										
COLD BAY	29	1005.4	1008.9	2.6	-3.4	-0.4	-1.0	8.9	26	-10.6	5	0	23	-3.3	82	60	21	29	21	0	180	51	2.5	30	17.9	14	22+	1	0	29	8.9	
FAIRBANKS	133	991.5	1008.9	3.2	-7.8	-2.3	-0.6	16.1	23	-19.4	8	0	26	-8.9	62	9	1	3	8	0	173	559	0.5	24	9.4	24	26	4	9	17	7.1	
GULKANA	479			5.4	-5.2	0.1	1.1	15.6	23	-12.8	14	0	27			11	6	6	3		175	254										
HOMER	19			5.2	-1.8	1.7		12.8	23	-10.0	13	0	21			41	13	21	11	0	112	178			13.4	25	12	7	5	18	7.1	
JUNEAU	4	1012.5	1013.4	8.8	2.7	5.7	1.9	17.8	25	-0.6	21	0	2	2.8	85	102	26	24	24	0	T	0	3.9	12	15.6	12	16	1	3	26	9.1	38
KING SALMON	15	1005.1	1007.1	0.5	-7.6	-3.5	-3.2	8.9	22	-24.4	13	0	27	-7.2	75	43	20	18	16	0	117	305	0.2	6	12.5	16	23	6	6	18	7.1	
KODIAK	4	1002.4	1006.6	5.3	-2.2	1.6	-1.2	10.6	23	-13.9	13	0	19	-3.3	73	103	6	35	17	0	36	25	1.1	30	15.2	10	19	7	4	19	6.8	
KOTZEBUE	3	1012.5	1012.8	-10.1	-21.4	-15.8	-5.2	2.8	23	-30.6	4	0	30	-18.9	76	11	2	4	7	0	109	508	0.1	15	15.6	10	22	15	8	7	4.3	
MC GRATH	105	996.3	1009.5	-1.8	-13.7	-7.7	-4.7	6.7	30	-35.0	13	0	29	-13.3	63	40	23	16	12	0	516	1041	1.1	33	7.6	30	25+	6	7	17	6.7	
NOME	4	1010.8	1011.7	-7.0	-18.2	-12.6	-5.3	2.2	23+	-29.4	12	0	30	-17.2	64	8	-11	4	7	0	104	406	1.4	6	13.4	12	22	17	5	8	4.1	66
ST. PAUL ISLAND	7	1009.8	1010.7	-0.8	-5.6	-3.2	-1.2	3.9	29	-16.7	11	0	27	-5.6	82	28	0	10	16	0	142	330	2.3	35	19.7	1	1	2	8	20	8.1	
TALKEETNA	105			3.8	-5.2	-0.7	-1.0	11.7	23	-19.4	12	0	27			115	86	35	16	0	483	864			10.3	19	10					
UNALAKLEET	5			-5.9	-18.7	-12.3		5.6	30+	-34.4	12	0	30			7		3	9		74	254			11.2	9	29	11	6	13	5.6	
VALDEZ	7	1008.5	1009.5	5.3	-0.7	2.3	0.3	11.7	23	-6.1	13	0	21	-1.7	79	206	128	49	19	0	1814	2134	0.6	35	14.8	29	26	3	3	24	8.4	
YAKUTAT	9	1009.8	1010.9	6.6	0.4	3.5	1.2	15.0	22	-2.2	29+	0	13	1.1	85	486	291	73	26	0	676	584	2.0	7	13.0	10	12	3	1	26	8.6	
ARIZONA																																
FLAGSTAFF	2135	787.0	1014.8	17.3	-3.3	7.1	1.4	22.8	27+	-15.0	4	0	27	-7.2	42	37	4	35	6	1	452	381	1.1	22	12.1	SW	1	16	8	6	4.1	85
PHOENIX	339	973.6	1011.9	31.2	14.9	23.1	3.2	37.2	26	4.4	3	17	0	-1.7	22	2	-7	2	1	0	0	0	0.7	16	22.4Y	S	10	20	5	5	3.0	92
TUCSON	786	924.8	1011.6	27.3	11.6	19.4	0.8	32.8	9	2.8	4	2	0	-1.1	28	11	2	7	4	2	0	0	1.3	20	15.2	NW	15	21	3	6	2.9	93
WINSLOW	1492	851.0	1014.7	22.1	2.6	12.4	0.3	27.8	30+	-5.6	21	0	8	-2.8	42	12	3	7	3	1	122	51	1.6	20	14.8	29	11	13	11	6	4.0	
YUMA	59	1004.7	1012.0	30.9	13.4	22.2	0.4	36.7	23	5.0	3	15	0	1.1	29	T	-3	T	0	0	0	0	1.0	23	11.2	N	2	22	5	3	2.3	96
ARKANSAS																																
FORT SMITH	136	1001.0	1017.5	25.1	10.3	17.7	0.9	29.4	9+	1.7	26	0	0	8.9	61	26	-94	13	7	2	0	0	0.8	25	15.6	NW	4	13	3	14	5.3	66
LITTLE ROCK	78	1008.5	1018.1	24.5	11.8	18.2	1.7	29.4	7	3.3	6	0	0	11.1	68	114	-20	23	12	8	0	0	1.0	21	9.8	NW	5	13	8	9	5.0	65
CALIFORNIA																																
BAKERSFIELD	145	998.0	1015.7	27.7	11.8	19.8	2.7	35.0	7	7.8	4+	1	0	3.3	38	T	-22	T	0	0	0	0	1.6	35	9.8	33	8	18	4	8	3.6	
BISHOP	1252	873.4		24.1	3.4	13.8	1.3	28.9	16	-2.2	20	0	4			1	-10	1	1		0	0			20.1Y		13	17	2	11	4.4	
BLUE CANYON	1609	838.8	1014.8	15.4	4.5	9.9	3.3	21.1	23	-1.1	9+	0	4	-5.0	39	26	-113	14	3		89	51	0.7	16	8.0	6	3					
EUREKA U	13			12.8	6.3	9.6	-0.3	16.7	25+	2.8	19	0	0			30	-44	11	9		0	0			15.2	N	18	6	11	13	6.6	66
FRESNO	100	1004.1	1015.7	27.5	9.7	18.6	2.9	32.8	7	4.4	1	3	0	3.3	41	1	-30	1	1	1	0	0	1.9	30	10.3	31	25	18	4	8	3.7	96
LONG BEACH	8	1014.9	1016.3	22.5	11.7	17.1	1.2	30.0	23	7.8	1	0	0	10.0	70	T	-23	T	0	0	0	0	1.4	22	7.6	25	1	9	16	5	4.7	
LOS ANGELES	30	1012.5	1016.2	20.2	12.1	16.2	1.3	25.0	23	8.9	3+	0	0	11.1	78	T	-28	T	0	0	0	0	2.2	25	13.9Y	SW	25	12	10	8	5.0	
LOS ANGELES U	82			22.9	12.3	17.6	1.1	29.4	23+	8.9	1	0	0			0	-32	0	0		0	0			7.2	SW	30	10	17	3	4.9	77
MT SHASTA R	1077	892.3	1016.8	17.1	1.2	9.2	1.2	23.9	15+	-3.3	26	0	13	-4.4	44	30	-47	10	5		0	0	1.0	34								
OAKLAND	2	1018.0	1018.2	19.3	9.9	14.6	1.2	26.1	19	7.2	21	0	0	7.8	69	3	-38	2	3	0	0	0	2.5	28	10.3	21	30	12	8	10	4.8	
RED BLUFF	104	1004.1	1016.6	26.3	10.4	18.4	3.1	30.6	23	5.6	22	0	0	2.2	39	25	-21	21	3	2	0	0	1.2	35	13.4	S	25	11	11	8	5.1	93
SACRAMENTO	5	1015.2	1016.2	25.1	8.4	16.8	2.2	29.4	23+	5.0	9+	0	0	3.3	49	6	-31	6	2	0	0	0	1.7	25	12.5	NW	16	13	12	5	4.0	88
SANDBERG R	1377	862.5	1015.1	17.7	6.7	12.2	2.7	24.4	23	0.6	1	0	0	-3.3	40	T	-28	T	0		0	0	2.8	34	17.9	36	18					
SAN DIEGO	4	1015.6	1016.6	19.6	13.1	16.3	0.4	24.4	23	10.0	4+	0	0	11.1	75	T	-20	T	1	0	0	0	1.7	26	8.5	NW	25+	11	10	9	4.9	71
SAN FRANCISCO	2	1017.3	1018.0	18.0	8.1	13.1	0.1	25.0	19	5.0	21	0	0	5.6	65	T	-40	T	0	0	0	0	4.5	29	15.6	29	13	11	10	9	4.7	
SAN FRANCISCO U	16			17.3	9.4	13.4	0.4	23.3	19	6.7	21	0	0			1	-40	1	2			0										
SANTA MARIA	72			19.8	5.6	12.7	0.0	26.7	23	2.2	24+	0	0			1	-32	1	1		0	0						13	11	6	4.5	
STOCKTON	7	1015.6	1016.6	27.2	9.8	18.5	3.7	31.7	15+	3.9	1	0	0	5.6	51	13	-22	11	2	1	0	0	3.5	31	11.2	35	18	14	8	8	4.5	
COLORADO																																
ALAMOSA	2297	771.4		16.0	-3.8	6.1	1.0	22.2	9	-15.0	4	0	26			21	5	14	6		180	152	1.3	17				6	13	11	5.9	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days sunrise to sunset			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
COLORADO																																
COLORADO SPRINGS	1873	811.0	1015.8	15.8	2.3	9.1	1.2	26.7	9	-7.2	4+	0	6	-0.6	59	65	28	35	9	7	109	102	1.6	2	14.8	35	3	8	8	14	6.0	
DENVER	1610	836.4	1014.3	17.4	3.8	10.6	2.0	27.2	9	-3.9	3	0	5	-0.6	55	54	5	18	12	3	119	76	0.1	4	17.0	S	10	12	7	11	5.6	65
GRAND JUNCTION	1476	851.3	1013.1	22.1	5.6	13.8	2.9	28.9	30+	-5.0	4	0	4	-4.4	34	14	-6	5	7	2	43	25	0.8	8	14.8	SE	27	9	12	9	5.1	77
PUEBLO	1428	855.1	1013.9	21.0	3.7	12.3	1.4	30.0	10+	-8.3	4	0	6	1.7	56	45	12	25	6	4	T	T	1.0	4	19.2	SW	10	11	8	11	5.5	83
CONNECTICUT																																
BRIDGEPORT	2	1017.3	1017.9	14.6	4.3	9.5	0.4	30.0	12	-4.4	9	0	4	0.6	58	91	5	36	8	0	T	0	1.5	29	17.4	29	6+	12	9	9	4.9	
HARTFORD	52	1010.5	1017.1	17.8	3.4	10.7	1.9	32.2	22	-5.0	9	1	8	0.0	53	124	29	42	11	0	8	T	1.5	28	15.6	NW	3	13	7	10	5.2	72
DELAWARE																																
WILMINGTON	23	1015.2	1018.4	18.8	6.0	12.4	1.2	30.6	12	-3.9	9	0	4	4.4	61	99	18	31	8	2	T	T	1.5	28	13.9	28	5	13	8	9	4.8	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1006.8	1018.4	21.3	4.7	13.0	1.3	30.6	13+	-6.7	10	0	6	3.9	58	66	-10	27	7	3	T	0	1.3	25	9.8	29	28+	12	8	10	4.9	
WASHINGTON NATIONAL	3	1016.6	1018.8	21.9	9.3	15.6	2.1	32.2	13+	-1.1	7	2	2	6.7	58	68	-5	31	7	1	T	0	1.2	24	14.8	SW	5	12	6	12	5.3	79
FLORIDA																																
APALACHICOLA U	6	1019.6	1020.4	25.0	13.9	19.4	-0.7	27.8	8	2.8	6	0	0	14.4	74	14	-77	8	3	2	0	0	1.3	16	10.7	NW	5	17	4	9	3.8	86
DAYTONA BEACH	9	1019.3	1020.8	27.1	15.2	21.1	0.2	32.8	4	6.7	7	1	0	15.0	70	10	-50	6	4	0	0	0	1.8	10	11.6	29	5+	18	7	5	3.3	
FORT MYERS	5	1019.0	1019.4	29.6	14.2	21.9	-1.1	32.8	22	10.6	29+	1	0	13.3	63	19	-32	14	4	1	0	0	2.0	8	10.3	4	7	11	16	3	4.4	
JACKSONVILLE	8	1019.6	1020.7	27.2	11.8	19.5	-0.6	32.2	2	3.9	7	1	0	12.2	67	45	-33	27	4	0	0	0	0.5	15	11.6	N	5	19	4	7	3.4	69
KEY WEST	1	1017.6	1018.3	27.6	22.5	25.1	-0.6	29.4	5	20.0	6	0	0	17.2	64	75	20	52	9	1	0	0	4.4	9	12.5	8	11	10	12	8	5.4	86
LAKELAND U	65			28.4	15.9	22.2	0.0	32.8	2	10.0	6	2	0			6	-60	3	4		0	0						15	12	3	3.8	77
MIAMI	2	1019.3	1019.7	27.2	20.4	23.8	-0.1	32.8	5	15.0	27	1	0	16.7	64	50	-41	26	6	2	0	0	3.5	8	13.0	10	21	8	9	13	6.0	85
ORLANDO/MC COY AFB	29	1016.6	1020.4	28.4	14.4	21.4	-0.4	32.2	4+	7.2	8	2	0	13.9	66	4	-66	3	2	0	0	0	1.2	8	11.6	29	5	13	10	7	4.1	
PENSACOLA	34	1015.9	1020.2	25.2	14.4	19.8	-0.2	28.9	8	5.0	6	0	0	13.3	69	82	-44	74	2	2	0	0	1.1	15	11.2	32	5	16	4	10	3.8	
TALLAHASSEE	17	1018.3	1020.6	28.3	11.0	19.7	-0.3	32.2	16	1.7	6	1	0	12.2	67	69	-34	57	2	1	0	0	0.9	16	11.2	18	4	16	6	8	3.7	
TAMPA	6	1020.0	1020.1	28.2	15.7	21.9	-0.3	31.7	22	8.9	29+	0	0	13.9	64	22	-31	11	5	1	0	0	1.4	8	10.7	32	5	13	11	6	4.6	74
WEST PALM BEACH	5	1019.3	1019.8	28.6	19.2	23.9	0.6	34.4	5	13.9	29+	1	0	15.6	61	42	-47	21	7	2	0	0	3.7	8	13.4	6	11	10	14	6	4.5	
GEORGIA																																
ATHENS	244	990.5	1019.4	24.9	11.1	18.0	1.4	30.6	18	1.7	6	0	0	9.4	62	47	-64	27	7	6	0	0	1.0	24	11.2	28	5+	14	5	11	4.9	
ATLANTA	308	982.4	1019.2	24.2	10.3	17.2	1.1	29.4	17+	0.0	6	0	1	8.9	62	45	-72	25	7	4	0	0	1.3	24	13.0	19	4	15	4	11	4.9	68
AUGUSTA	41	1014.2	1019.7	26.5	10.3	18.4	0.7	31.1	16	2.2	7	0	0	10.0	61	31	-55	15	4	1	0	0	1.2	22	11.2	28	5+	13	8	9	4.4	
COLUMBUS	117	1005.8	1019.7	27.4	12.1	19.8	1.7	32.2	17	3.3	6	1	0	11.7	64	44	-70	20	6	3	0	0	0.7	21	12.5	24	4	14	7	9	4.2	
MACON	108	1007.1	1020.0	27.4	11.8	19.6	0.8	32.8	17	3.3	7+	1	0	11.7	66	33	-58	16	5	2	0	0	0.7	20	14.3	S	4	16	4	10	4.2	83
ROME	194			25.9	9.9	17.9	2.0	31.1	17+	-0.6	6	0	1			202	81	89	6		0	0										
SAVANNAH	14	1018.6	1020.4	26.7	12.8	19.8	0.8	31.7	17	4.4	7+	0	0	11.7	65	49	-25	37	7	0	0	0	1.0	21	13.9	W	5	15	7	8	4.5	72
HAWAII																																
HILO	8	1016.3	1017.6	27.7	19.1	23.4	1.1	31.1	2	17.2	30+	0	0	18.9	80	277	-50	60	26	0	0	0	1.0	13	10.3	E	17	0	10	20	8.0	29
HONOLULU	2	1016.9	1017.5	28.2	21.0	24.6	0.8	30.0	28+	18.9	19+	0	0	17.2	67	46	11	26	8	0	0	0	5.0	6	14.8	E	12	8	14	8	5.3	66
KAHULUI	15	1014.9	1017.1	27.2	19.9	23.6	0.3	30.0	19	15.0	23	0	0			97	66	57	16	0	0	0	5.2	5	15.6	NE	12	9	13	8	5.4	59
LIHUE	31	1013.5	1018.8	26.4	20.1	23.3	0.3	27.8	1	16.7	18+	0	0	18.9	79	104	22	51	21	1	0	0	5.0	6	11.2	E	15+	2	16	12	6.9	79
IDAHO																																
BOISE	865	916.0	1016.2	20.7	3.8	12.3	2.8	32.8	24	-5.0	18	1	9	-5.6	33	5	-24	3	2	0	T	0	1.2	32	16.5	NW	25	11	8	11	5.3	84
LEWISTON	431			21.2	5.4	13.3	3.1	36.1	24	-2.8	18	3	4			3	-26	2	3		0	0			21.5Y		8	9	7	14	6.2	
POCATELLO	1358	863.2	1016.0	18.9	1.0	9.9	2.6	29.4	24	-5.6	3	0	16	-6.1	36	2	-25	3	2	1	15	25	2.7	23	15.2	S	8	11	11	8	5.1	89
ILLINOIS																																
CAIRO J	96			23.4	12.8	18.1	2.4	31.7	16	3.9	5	0	0			161	50	69	11		0	0			16.1	SW	2					64
CHICAGO O HARE	201	992.2	1016.5	19.2	6.3	12.8	3.4	30.6	17	-4.4	6	0	5	3.3	57	67	-19	27	10	4	T	T	0.7	23	15.6	24	2	8	11	11	6.0	
CHICAGO MIDWAY	185	994.2	1017.1	18.8	6.2	12.6	2.6	31.1	18	-3.9	6	0	5	4.4	60	62	-33	22	12	5	13	T	0.7	21	18.3	SW	2	7	12	11	6.0	63
MOLINE	177	994.9	1016.6	20.6	6.8	13.7	3.3	30.6	16	-2.8	29+	0	6	5.0	60	40	-57	15	8	4	25	T	1.3	22	17.4	SW	2	6	11	13	6.1	44
PEORIA	199	992.9	1016.9	20.6	7.2	13.9	3.2	30.0	17	-2.8	6	0	5	4.4	57	31	-79	11	11	2	36	25	1.3	20	15.6	SW	2	6	11	13	6.3	63
ROCKFORD	221	989.8	1016.9	20.1	5.6	12.8	3.8	31.1	18	-5.0	6	0	7	2.8	55	61	-37	22	12	4	20	T	0.5	24	15.6	25	2	8	10	12	5.9	
SPRINGFIELD	179	994.9	1017.2	22.0	8.9	15.5	3.8	30.6	17+	-1.7	6	0	1	7.2	62	71	-35	30	11	4	28	25	1.8	20	21.0	W	2	8	10	12	6.0	60
INDIANA																																
EVANSVILLE	116	1003.7	1017.9	23.1	9.7	16.4	2.7	31.1	17	2.2	5	0	0	7.8	60	85	-18	31	12	6	T	T	0.8	23	13.4	W	5	9	8	13	5.6	72

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
INDIANA																																
FORT WAYNE	241	987,5	1017,5	19.4	6.6	13.0	3.4	30,0	18	-3,9	9	0	6	5,6	64	102	11	54	12	3	13	T	1.4	23	14,8	W	4	8	7	15	6,4	76
INDIANAPOLIS	241	988,8	1018,1	20.7	7.2	13.9	2.7	30,6	18	-2,2	9	0	6	7,8	69	49	-50	24	8	5	10	T	1.1	23	15,2	W	2	10	8	12	5,8	63
SOUTH BEND	236	988,5	1016,7	19.3	6.7	13.0	4.1	30,0	18	-2,8	9+	0	7	5,0	61	70	-32	16	12	3	58	25	1.3	23	17,4	21	2	9	7	14	6,0	
IOWA																																
BURLINGTON	211			20.4	8.1	14.2	3.5	29,4	17+	-3,3	6	0	4	4,4	55	55	-41	37	6	2	T	T	1.3	21	13,0	23	10+	7	10	13	6.0	
DES MOINES	286	981,4	1016,0	21.2	8.3	14.7	5.0	30,0	27+	-3,3	6	0	4	4,4	55	62	-12	20	9	3	48	25	0.8	22	16,5	SW	11	7	6	17	6.6	61
DUBUQUE	322	977,7		18.7	5.9	12.3	3.7	28,9	18+	-4,4	6	0	7			74	-31	25	9		89	51										
SIOUX CITY	334	976,3	1016,1	19.6	6.6	13.1	3.4	30,6	9	-3,9	6	0	5	5,6	66	80	24	25	12	2	5	T	0.4	26	18,3	NW	5	6	11	13	6.3	70
WATERLOO	265	984,4	1016,5	18.3	3.6	10.9	2.4	28,9	27	-7,2	6	0	13	2,8	62	57	-30	21	9	4	38	T	0.9	20	13,9	33	5	6	9	15	6.5	
KANSAS																																
CONCORDIA	448	962,8	1015,7	20.1	7.9	14.0	2.5	28,9	8	-1,7	5+	0	2	6,7	67	60	3	15	12	3	30	T	0.9	17	18,8	S	10	11	5	14	6.0	68
DODGE CITY	787	924,8	1015,0	21.5	8.4	14.9	2.7	32,2	27	-3,9	4	1	2	5,6	60	84	41	38	10	7	69	76	1.1	17	19,7	SW	1	9	5	16	6.4	64
GOODLAND	1114	887,9	1015,1	18.3	3.9	11.2	1.9	30,6	10	-5,6	4+	0	8	4,4	72	49	13	15	8	2	137	51	0.4	18	17,9	34	4	6	8	14	6.2	
TOPEKA	267	984,8	1016,3	22.2	9.1	15.7	3.2	30,6	27	-1,1	3	0	1	8,3	66	62	-29	15	13	3	5	T	1.0	19	19,2	NW	4	7	6	17	6.7	49
WICHITA	403	968,5	1016,3	21.7	9.2	15.4	1.8	28,9	27	-0,6	5	0	1	8,3	67	84	9	31	10	5	T	0	1.2	20	16,1	NW	4	7	8	15	6.2	61
KENTUCKY																																
COVINGTON	265	986,5	1018,2	20.3	6.7	13.5	1.3	28,9	12	-2,8	9+	0	4	6,1	65	106	13	49	10	3	94	76	1.4	24	13,4	27	5	7	7	16	6.6	
LEXINGTON	294	983,1	1018,6	21.7	8.9	15.3	2.4	30,0	18	-0,6	9	0	3	7,2	62	87	-11	23	14	2	20	25	1.3	19	13,4	24	2	8	9	13	6.0	
LOUISVILLE	145	1000,3	1018,0	22.3	9.2	15.7	2.4	30,0	18	0,6	9	0	0	8,3	65	86	-18	27	12	5	20	T	1.0	24	13,9	W	6	8	9	13	6.1	56
LOUISIANA																																
ALEXANDRIA	28	1014,2	1018,6	27.2	12.6	19.9	1.3	31,7	10	5,0	6	0	0	13,9	74	118	-12	80	6	5	0	0	1.0	17	10,3	13	17	15	5	10	4.8	
BATON ROUGE	20	1016,6	1019,3	26.3	13.6	19.9	-0.3	28,9	10+	6,1	6	0	0	13,3	70	180	51	131	8	6	0	0	1.2	15	11,2	18	20	14	6	10	4.7	
LAKE CHARLES	3	1017,6	1018,5	25.8	14.4	20.2	-0.3	28,3	10+	7,8	6	0	0	14,4	73	157	47	91	8	5	0	0	1.6	16	11,2	19	3	11	11	8	4.8	
NEW ORLEANS	1	1018,3	1019,0	26.9	14.2	20.6	0.2	28,9	30+	5,0	6	0	0	15,6	75	162	57	132	6	4	0	0	1.2	14	9,4	31	4+	14	6	10	4.5	72
SHREVEPORT	77	1008,8	1018,2	25.7	11.6	18.6	-0.5	29,4	9	3,9	6	0	0	13,3	75	52	-80	27	8	4	0	0	1.0	20	11,2	31	5	13	5	12	4.9	68
MAINE																																
CARIBOU	190	990,9		7.7	-2.8	2.4	-0.2	20,0	21	-15,6	10	0	20			46	-15	19	10		269	406						7	9	14	6.3	
PORTLAND	13	1013,9	1016,3	11.7	-0.2	5.8	-0.2	27,8	22	-8,3	10	0	18	-2,8	60	88	3	21	11	0	36	25	1.6	29	16,5	NW	3	11	8	11	5.5	69
MARYLAND																																
BALTIMORE	45	1012.9	1018,5	21.3	7.4	14.4	2.3	31,7	13	-2,8	7	0	3	4,4	55	77	-1	28	6	2	T	0	1.5	27	14,3	NW	28	13	8	9	4.6	67
MASSACHUSETTS																																
BLUE HILL OBS R	192			15.2	2.8	9.0	1.1	29,4	22	-7,2	9	0	7			103	10	38	9		T	T			29,5	NW	3					66
BOSTON	5	1015,9	1016,9	16.2	5.2	10.7	1.5	31,1	22	-3,3	9	0	4	1,7	60	103	15	39	9	0	T	0	1.9	28	17,4	NW	3	15	6	9	4.8	71
WORCESTER	301	979,3		13.8	1.6	7.7	0.3	27,8	22+	-8,3	9	0	13	-2,8	54	94	-4	36	12	0	25	T	2.5	29	14,8	29	3	10	10	10	5.3	
MICHIGAN																																
ALPENA	210	991,2	1017,0	13.1	-0.6	6.3	1.8	28,3	11	-10,6	8	0	18	-1,1	63	55	-7	20	11	3	117	76	0.3	32	13,0	NW	7	7	7	16	6.6	61
DETROIT	189			17.7	6.5	12.1	3.2	30,0	11	-3,9	8	0	5							1					13,0	32	7+					
DETROIT METRO	193	992,9	1017,2	18.4	4.2	11.3	2.6	31,7	12	-5,6	9	0	6	2,8	62	106	24	39	14	2	18	T	0.9	25	17,9	W	5	9	5	16	5.9	50
FLINT	235	988,5	1016,7	16.1	3.3	9.7	2.0	27,2	12+	-6,7	8	0	11	0,6	58	83	11	29	12	1	8	T	1.2	23	14,3	28	5	10	5	15	6.3	
GRAND RAPIDS	239	987,5	1016,9	18.1	4.2	11.2	3.1	30,0	18	-7,2	8	0	8	3,3	63	103	17	42	13	3	51	25	0.9	21	16,1	SW	11	9	7	14	5.9	61
HOUGHTON LAKE	350	974,3	1016,7	14.6	1.6	8.1	2.6	25,0	19	-11,1	8	0	13	0,6	63	58	-2	23	14	2	69	25	0.7	27	10,3	26	21	7	8	15	6.4	
LANSING	256	985,1	1016,6	17.6	3.3	10.4	2.4	28,3	12	-7,8	9	0	10	3,9	69	64	-9	27	8	1	28	25	1.1	24	20,4	SW	2	9	5	16	6.2	68
MARQUETTE J	206			11.8	1.2	6.6	2.0	28,3	11	-8,3	8	0	13			81	15	18	14		343	229			12,1	NW	27					61
MUSKEGON	191	993,6	1016,8	16.2	4.2	10.2	2.8	27,2	17	-6,1	9+	0	8	1,7	61	43	-37	12	12	2	157	102	0.8	22	12,5	30	5	9	10	11	5.9	
SAULT STE MARIE	220	989,8	1016,9	10.7	-1.8	4.4	1.0	21,7	11	-16,7	8	0	16	0,0	75	42	-14	15	13	0	287	254	0.4	1	14,8	NW	7	6	10	14	5.5	65
MINNESOTA																																
DULUTH	435	964,8	1016,8	13.1	0.7	6.9	3.2	28,9	10	-9,4	8	0	12	-2,2	60	32	-33	14	8	2	T	T	1.1	7	14,8	NE	27	9	8	13	6.3	59
INTERNATIONAL FALLS	359	972,9	1016,8	13.2	-1.1	6.1	2.6	27,2	30	-11,1	6	0	16	-1,7	61	26	-17	13	8	2	5	76	0.5	3	10,3	21	30	7	8	15	6.5	
MINNEAPOLIS	254	985,4	1016,1	17.9	5.4	11.7	4.4	31,1	10	-6,7	6	0	7	2,8	59	47	-5	13	14	4	46	T	0.5	30	13,4	NE	27	8	8	14	6.4	72
ROCHESTER	395	968,2	1016,1	18.3	5.1	11.7	4.7	30,0	27	-7,2	6	0	8	3,3	63	74	14	34	12	3	89	51	1.1	23	14,3	31	7+	7	7	16	6.4	
ST CLOUD	313	979,0	1016,7	17.6	3.4	10.5	4.4	30,6	10	-8,3	6	0	9			81	22	26	13		33	25						11	5	14	5.6	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1007.1	1018.9	26.1	12.1	19.1	0.3	30.0	16	2.8	6	0	0	12.2	69	203	85	63	10	6	0	0	1.4	16	10.3	11	21+	18	1	11	4.1	74
MERIDIAN	88	1008.8	1019.8	25.7	10.5	18.1	-0.4	30.6	16	2.8	6	0	0	11.7	73	193	63	121	7	3	0	0	0.9	19	9.4	30	5+	14	5	11	4.6	
MISSOURI																																
COLUMBIA REGIONAL	270	984.4	1016.6	20.8	8.4	14.6	1.8	28.3	16	-0.6	6	0	2	7.2	64	69	-29	35	9	1	5	T	1.3	19	18.8	SW	2	9	5	16	6.4	60
KANSAS CITY	309	979.3	1016.0	20.9	9.8	15.4	2.6	28.3	27+	-0.6	5	0	1	7.8	65	60	-29	16	10	3	15	T	1.1	20	16.1	SW	10	10	2	18	6.3	84
ST JOSEPH	247			20.9	9.1	15.0	2.7	29.4	9	0.0	6	0	1			35	-46		8		T											
ST LOUIS	163	997.0	1017.4	22.5	9.4	16.0	2.4	31.1	17+	0.6	6	0	0	8.3	64	25	-74	9	8	4	T	0	1.2	21	17.4	W	5+	10	5	15	6.1	55
SPRINGFIELD	386	971.9	1016.9	22.4	8.3	15.4	1.8	27.8	17+	0.0	5	0	1	8.3	65	60	-49	41	10	4	5	T	2.0	19	13.4	W	4	12	5	13	5.3	66
MONTANA																																
BILLINGS	1087	892.3	1016.5	17.7	2.6	10.2	3.2	28.9	26	-6.7	3	0	9	-3.9	41	16	-23	9	6	2	145	102	1.3	28	18.3	SW	26	8	11	11	5.4	81
GLASGOW	696	934.3	1016.6	18.1	-0.2	9.0	3.0	30.0	26	-13.3	3	0	13	-4.4	44	4	-14	2	4	0	10	T	0.9	29	17.4	32	16	12	9	9	4.7	
GREAT FALLS	1116	889.6	1018.0	16.4	0.4	8.4	2.1	26.1	25	-13.9	2	0	14	-5.0	43	7	-23	3	5	0	25	203	2.8	23	14.8	SW	29	10	6	14	5.9	70
HAVRE	788	923.8	1016.5	18.1	-1.0	8.6	2.1	30.0	25	-20.6	3	0	15	-3.3	48	3	-23	2	4	0	36	457	2.2	25	17.9	NW	16	11	9	10	5.3	87
HELENA	1167	882.8	1018.8	17.5	-0.9	8.3	2.3	26.7	25+	-7.8	3	0	18	-5.0	42	3	-21	1	3	1	13	25	1.8	28	16.1	SW	29	11	9	10	5.1	70
KALISPELL	904	913.6	1019.3	16.9	-0.9	8.0	2.4	28.9	24	-7.2	18	0	19	-2.2	55	11	-15	6	5	0	58	25	0.3	19	10.3	24	16	11	5	14	5.6	
MILES CITY	801	923.1	1016.2	19.0	2.3	10.7	3.3	30.6	26	-10.6	3	0	7	-2.2	47	6	-26		4	1	T		1.0	36								
MISSOULA	972	906.5	1019.3	16.0	-1.4	8.3	1.7	30.0	24	-7.8	18+	0	21	-4.4	45	2	-24	1	3	0	25	T	1.2	31	16.1	NW	8	8	9	13	5.7	71
NEBRASKA																																
GRAND ISLAND	561	949.9	1015.8	19.9	7.0	13.4	3.5	30.0	10	-3.9	4	0	3	5.6	65	124	61	58	11	5	122	102	0.4	20	16.1	18	10	9	7	14	5.9	
LINCOLN	359	973.2	1016.0	20.6	6.8	13.7	3.0	28.9	27+	-2.8	5	0	5	5.6	62	45	-19	12	11	4	86	51	0.4	24	18.8	SW	10	9	7	14	6.3	59
NORFOLK	471	960.0	1015.5	20.1	6.8	13.4	4.3	31.1	27+	-3.9	5	0	5	3.9	60	88	33	29	10	4	58	25	0.8	27	17.0	32	5+	9	5	16	6.1	
NORTH PLATTE	846	918.1	1016.1	18.7	3.1	10.9	2.2	32.2	10	-8.9	4	1	10	3.3	66	123	74	45	13	3	206	203	1.1	2	19.2	N	4	6	8	16	6.6	62
OMAHA	298	980.7	1015.8	22.0	8.0	15.0	3.7	31.1	9	-2.8	6	0	3	6.7	63	83	8	42	11	7	41	T	0.5	23	17.0	S	10	6	6	18	6.8	63
SCOTTSBLUFF	1206	880.1	1015.8	19.2	4.1	11.7	3.8	30.0	9	-3.9	3	0	4	0.0	52	54	15	35	12	1	25	25	1.6	3	18.3	34	4	8	10	12	5.7	
VALENTINE	789	923.8		17.2	3.4	10.3	2.7	31.1	9	-4.4	4	0	10	2.2	64	90	45	37	14		64	25	0.9	31	17.9	NW	4	10	7	13	5.6	67
NEVADA																																
ELKO	1539	844.9	1015.6	20.3	-1.1	9.6	3.2	28.9	24	-7.2	20	0	19	-10.0	29	5	-16	3	2	0	51	51	0.8	28	12.1	21	8	10	8	12	5.4	
ELY	1906	809.0	1015.1	17.2	-2.8	7.2	2.1	25.0	24	-15.6	3	0	22	-11.7	28	4	-21	3	2	0	66	25	1.5	22	13.9	S	8	13	6	11	5.2	
LAS VEGAS	659	936.7	1012.5	29.0	11.7	20.3	2.7	35.0	25+	3.3	1	9	0	-7.8	16	T	-7	T	1	0	0	0	1.3	26	16.1	NW	1	18	7	5	3.1	90
RENO	1342	866.6	1015.9	21.3	0.1	10.7	2.5	29.4	24	-6.7	3	0	15	-2.8	42	T	-12	T	0	1	T	T	0.9	30	17.9	SW	8	11	7	12	5.7	92
WINNEMUCCA	1311	869.3	1016.2	21.9	-1.4	10.2	2.9	31.7	24	-7.8	20+	0	22	-7.8	30	6	-12	5	2	1	18	25	0.9	30	13.4	NW	1	11	7	12	5.5	74
NEW HAMPSHIRE																																
CONCORD	104	1004.1	1016.7	15.2	-0.7	7.3	0.5	29.4	22+	-10.6	11	0	19	-1.7	58	103	28	43	9	0	13	T	1.5	29	14.8	W	3	12	6	12	5.2	69
MT WASHINGTON OBS	1909			-1.1	-9.8	-5.4	-0.2	11.7	21	-25.6	9	0	27			226	87	43	18	0	1138	178			52.8Y	NW	4	5	3	22	8.0	34
NEW JERSEY																																
ATLANTIC CITY	20	1015.9	1018.3	17.9	4.9	11.4	0.4	29.4	12	-7.2	9	0	4	2.8	60	54	-31	24	8	0	0	0	1.7	25	14.3	25	6	15	4	11	4.5	68
ATLANTIC CITY U	3			15.6	6.8	11.2	0.9	28.9	12	-2.8	9	0	3			48	-34	16	7						14.3	W	6					
NEWARK	2	1016.9	1017.9	17.5	6.6	12.1	1.1	32.2	12	-3.3	9	1	3	1.1	54	80	-7	34	9	1	T	0	1.1	30	12.1	30	8+	14	5	11	5.1	
TRENTON U	17			18.2	6.4	12.3	1.1	30.6	12	-3.3	9	0	3			106	26	36	8		0	0			14.8	NW	8	15	6	9	4.3	66
NEW MEXICO																																
ALBUQUERQUE	1619	837.5	1013.1	21.4	5.8	13.6	0.4	27.8	9	-4.4	4	0	4	-1.1	42	27	15	11	4	1	66	T	0.8	15	17.4	W	29	14	8	8	4.6	71
CLAYTON	1515			18.6	4.6	11.6	1.2	27.2	9	-7.8	4	0	7			76	44	19	11		51	51										
ROSWELL	1112	889.6	1012.9	24.8	8.8	16.8	1.4	30.6	27+	-0.6	4	0	1	3.9	48	32	19	26	4	5	0	0	1.1	18	21.5	SW	1	12	10	8	5.0	92
NEW YORK																																
ALBANY	84	1006.8	1017.5	15.1	1.4	8.2	-0.1	30.6	13	-8.9	9	0	14	-1.1	57	87	18	46	13	2	8	T	2.1	26	19.7	NW	8	10	8	12	5.7	54
BINGHAMTON	485	958.7	1018.0	14.4	2.7	8.6	1.5	26.7	22+	-8.9	9	0	9	0.0	59	69	-11	40	11	1	13	T	2.2	27	14.3	W	5	10	10	10	5.5	59
BUFFALO	215	991.5	1017.4	13.7	3.0	8.3	1.2	26.7	21+	-6.7	9+	0	12	1.1	64	91	11	43	12	2	56	25	2.3	23	14.3	SW	5	6	11	13	6.4	58
NEW YORK U	40	1014.6	1017.8	17.6	6.6	12.1	0.9	32.2	12	-3.9	9	1	3	1.7	55	95	11	50	7	0	T	0	1.0	34	8.9	NNW	8+					69
NEW YORK KENNEDY	4	1017.3	1018.1	15.7	5.4	10.6	0.6	32.2	12	-3.3	9	1	3	1.7	61	92	1	35	7	0	0	0	1.3	29	13.4	30	8	14	8	8	4.7	
NEW YORK LA GUARDIA	3	1017.3	1018.3	16.7	6.2	11.4	0.5	30.0	12	-3.3	9	0	3	1.1	53	74	-16	41	6	0	T	0	1.4	30	15.6	NW	28+	13	6	11	4.9	
ROCHESTER	167	997.0	1017.5	15.4	2.2	8.8	1.0	30.0	21	-9.4	7	0	11	2.2	67	63	-6	29	12	0	46	25	2.2	26	18.8	SW	5	9	8	13	5.8	54

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow Ice pellets				Fastest mile (1 6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
NEW YORK																																
SYRACUSE	125	1002,4	1017,4	15.5	2.4	9.0	0.9	28,3	11	-9,4	9	0	14	0,0	57	77	-1	37	11	0	48	25	1.9	26	19,2	W	3	8	10	12	6.1	54
NORTH CAROLINA																																
ASHEVILLE	652	943,4	1019,7	21.8	7.2	14.6	1.3	27,2	17+	-1,1	27+	0	2	6,1	62	103	13	53	8	8	0	0	0.4	30	10,3	35	24+	9	10	11	5.7	60
CAPE HATTERAS R	2	1020,0	1020,2	21.3	12.9	17.2	2.2	27,2	13	1,1	10	0	0	11,1	70	48	-30	33	7	4	0	0	1.6	25	12,5	21	5	14	6	10	4.6	70
CHARLOTTE	224	992,2	1019,4	23.8	10.1	16.9	0.9	29,4	13+	0,0	6	0	1	8,3	61	52	-34	16	9	3	0	0	1.1	21	18,8	SW	5	10	10	10	5.1	56
GREENSBORO	273	987,5	1019,2	23.4	8.9	16.2	1.4	30,6	12	-2,2	7	0	2	7,2	61	57	-23	31	9	6	0	0	1.1	23	14,8	SW	5	10	11	9	5.2	71
RALEIGH	132	1003,4	1019,3	24.7	9.3	17.0	1.7	31,1	13+	-0,6	10+	0	2	8,9	65	49	-30	20	11	5	0	0	1.1	21	14,8	24	5	11	11	8	5.1	67
WILMINGTON	9	1019,0	1020,2	25.4	12.2	18.8	1.4	31,1	14+	1,7	10	0	0	12,8	71	36	-38	27	5	2	0	0	1.7	21	16,5	SW	5	16	2	12	4.7	73
NORTH DAKOTA																																
BISMARCK	502	956,7	1016,7	17.9	1.1	9.5	3.4	30,6	9	-6,7	1	0	13	-2,8	47	3	-33	2	3	1	18	25	0.7	35	13,4	NW	5	12	5	13	5.6	74
FARGO	273	982,7	1015,7	17.0	2.4	9.7	4.0	29,4	9	-8,9	6	0	11	0,0	57	21	-31	8	10	1	53	25	0.8	2	16,1	NW	5	8	10	12	5.9	62
WILLISTON	579	947,9	1016,6	18.6	0.4	9.5	3.7	30,0	26	-12,8	3	0	15	-2,2	50	13	-18	5	7	0	51	25	0.9	30	13,9	NW	30	7	13	10	5.6	75
OHIO																																
AKRON	368	973,6	1018,2	18.2	6.2	12.2	3.1	27,8	12+	-6,1	9	0	5	2,2	54	105	20	45	13	2	38	25	1.5	24	11,2	27	2	7	5	18	6.8	
CINCINNATI ABBE OB	232			20.9	7.8	14.3	1.5	31,1	18	-2,2	9	0	4			82	-16	27	8						10,3	W	7+					53
CLEVELAND	237	989,2	1018,5	17.2	4.3	10.8	1.7	27,8	20+	-7,8	9	0	9	3,9	67	90	2	25	14	3	43	T	1.3	24	13,4	NW	5	6	5	19	7.1	50
COLUMBUS	247	988,2	1018,4	19.5	5.8	12.7	2.0	28,3	13+	-5,6	9	0	7	3,3	56	103	8	38	11	2	T	T	1.3	23	15,2	SW	5	10	5	15	6.3	54
DAYTON	303	981,7	1017,9	19.8	6.5	13.2	2.4	30,0	18	-4,4	9	0	8	5,0	62	130	45	79	10	4	8	T	1.7	23	18,8	W	5	7	6	17	6.7	61
MANSFIELD	395			16.7	4.7	10.7	0.7	26,1	13+	-6,7	9	0	8			83	-2	47	12	3	36	25	2.0	23	13,9	24	5	8	5	17	6.3	
TOLEDO	204	992,2	1017,4	18.8	4.8	11.8	2.7	31,1	18	-8,3	9	0	9	3,9	63	155	80	87	13	3	15	T	1.1	25	17,9	W	5	9	6	15	6.3	55
YOUNGSTOWN	359	975,3	1018,1	16.5	4.3	10.4	1.7	27,8	19+	-8,3	9	0	10	2,2	61	103	10	31	15	3	15	T	1.2	23	13,0	26	5	7	8	15	6.6	
OKLAHOMA																																
OKLAHOMA CITY	392	970,2	1016,4	23.4	10.4	16.9	1.2	28,9	27+	-0,6	5	0	1	7,8	62	73	-15	48	8	3	0	0	2.3	18	17,4	NW	4	12	6	12	5.1	61
TULSA	198	992,2	1016,4	24.2	11.7	18.0	2.0	30,6	7	0,6	5	0	0	8,9	61	52	-54	13	12	3	0	0	2.0	20	18,8	S	1	11	9	10	5.4	63
OREGON																																
ASTORIA	2	1020,7	1021,4	13.8	4.9	9.4	0.6	21,7	30	0,0	17	0	1	5,6	79	42	-75	12	15	1	0	0	1.3	24	9,8	19	8	1	13	16	7.8	
BURNS J	1265			18.3	-0.1	9.1	2.3	28,9	24	-7,2	14	0	16			4	-14	3	2		10	T			19,7Y	SW	8	14	6	10	4.9	
EUGENE	109	1007,1	1021,1	18.2	2.6	10.4	0.2	23,9	23	-2,2	14	0	7	5,0	73	37	-21	13	10	1	0	0	0.6	27	11,2	24	25	6	6	18	7.0	
MEDFORD	396	971,9	1019,9	21.3	1.9	11.7	1.6	30,0	23	-3,3	18+	0	11	1,1	55	21	-5	11	6	1	T	0	1.2	32	11,6	15	22	10	8	12	5.8	
PENDLETON	452	964,8	1018,8	20.7	5.2	12.9	2.4	32,8	24	0,0	20+	1	3	0,6	45	5	-21	3	2	0	0	0	1.5	29	20,6	28	25	10	10	10	5.4	
PORTLAND	6	1019,3	1020,7	18.5	4.7	11.6	1.3	26,1	22	-0,6	17	0	2	5,0	68	26	-30	8	8	0	0	0	0.9	30	19,2	W	25	5	8	17	7.1	75
SALEM	60	1013,2	1020,6	18.1	2.5	10.3	0.4	24,4	23	-2,8	17	0	8	4,4	67	16	-42	9	7	0	0	0	1.0	24	12,5	24	25	7	7	16	6.8	
SEXTON SUMMIT R	1169	886,2	1019,1	14.7	2.9	8.8	2.8	23,3	6	-2,8	18+	0	11	-0,6	62	26	-27	10	8		25	T			17,0	20	25					
PACIFIC AREA																																
GUAM TAGUAC R	110			29.5	21.9	25.7	-0.4	30,6	29+	19,4	28	0	0			58	-44	8	21		0	0			11,6	E	14	0	18	12	7.3	77
JOHNSTON	2	1013,9	1014,4	27.1	22.5	24.8	-0.6	28,3	28	18,3	3	0	0	21,1	79	66	1	24	18	0	0	0	8.0	/	17,9	NE	3	4	14	12	6.4	81
KOROR R	29	1006,1		31.6	24.5	28.1	0.3	32,8	19	22,8	26	7	0			114	-107	30	16	0	0	0	3.9	6	9,8	SE	5	1	7	22	8.1	57
KWAJALEIN	2	1009,1		30.3	25.1	27.7	0.1	31,7	16+	22,8	30	0	0			147	-3	44	14	1	0	0	6.6	/	11,2	9	30+	0	1	29	9.0	
MAJURO	3	1009,5		29.6	24.3	26.9	-0.3	30,6	26+	21,7	23	0	0			270	8	94	21		0	0	5.8	/	12,1	E	10	0	2	28	9.5	61
PAGO PAGO	4	1009,1	1009,2	30.7	23.7	27.2	0.2	31,7	28+	21,7	14+	0	0	23,9	84	177	-134	46	13	3	0	0	0.6	14	14,3	S	9	3	14	13	6.8	55
PONAPE R	37			30.9	24.7	27.8	0.7	32,2	28+	21,7	28	2	0			405	-93	225	23	0	0	0			8,0	NE	30	0	5	25	8.7	28
TRUK MOEN ISLAND	2	1009,1		30.4	25.2	27.8	0.4	31,1	29+	22,8	30	0	0			291	-43	119	18	0	0	0	4.8	5	11,2	NE	21	0	2	28	9.7	42
WAKE	3	1015,6	1015,7	28.4	22.2	25.3	-0.4	30,0	29	19,4	2	0	0	21,7	83	41	-15	15	13	0	0	0	8.2	6	14,3	NE	2	13	14	3	4.3	81
YAP R	13	1008,1		31.7	24.2	27.9	0.3	32,8	22	22,2	25+	8	0			23	-129	14	12	0	0	0	4.5	8	8,9	NE	15	3	14	13	6.8	88
PENNSYLVANIA																																
ALLENTOWN	118	1004,4	1018,5	17.9	4.7	11.3	1.4	30,6	12	-5,6	9	0	4	1,7	55	107	11	45	11	2	T	0	1.4	30	12,5	28	28+	10	10	10	5.1	
ERIE	223	991,2	1018,3	14.3	3.2	8.8	1.7	26,1	21	-8,3	9	0	11	2,8	70	132	42	64	11	1	10	T	1.9	22	14,3	15	4	7	8	15	6.3	
HARRISBURG	103	1005,4	1018,3	18.6	6.0	12.3	0.7	30,0	12	-3,9	9	0	5	2,8	58	114	38	31	11	2	T	0	1.0	30	9,4	NW	12+	12	8	10	4.9	74
PHILADELPHIA	2	1017,6	1018,5	20.7	7.3	14.0	2.4	33,3	12	-3,3	9	1	3	3,3	53	142	58	62	9	2	0	0	1.3	29	16,1	W	5	13	9	8	4.7	70
PITTSBURGH	347	974,3	1018,7	17.0	3.8	10.4	0.3	27,8	13+	-9,4	9	0	10			83	-4	38	11	1	33	25	1.6	26	13,4	27	6	7	10	13	6.2	49
SCRANTON	283	983,7	1018,1	15.5	3.3	9.4	0.2	28,9	12	-6,7	9	0	8	0,6	57	101	23	40	9	3	36	T	1.2	28	13,4	SW	6	12	4	14	5.4	67
WILLIAMSPORT	160	999,0	1018,0	18.5	5.1	11.8	1.9	30,6	12	-5,6	9	0	5	1,7	54	172	86	69	13	3	8	T	0.9	32	17,9	28	5	14	5	11	4.9	
RHODE ISLAND																																
BLOCK ISLAND	34			12.0	4.0	8.0	0.6	22,8	12	-3,9	9	0	3			92	3	61	8		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1014.9	1017.3	16.6	4.1	10.3	1.8	30.0	22+	-5.0	9	0	5	0.0	55	85	-9	44	9	0	T	0	1.6	29	14.3	28	3	13	9	8	4.5	65
SOUTH CAROLINA																																
CHARLESTON	12	1019.0	1020.8	26.2	12.0	19.1	1.0	30.6	15	3.3	7	0	0	12.2	68	11	-64	8	3	0	0	0	1.7	21	13.4	24	5	15	6	9	4.3	90
CHARLESTON U	3			25.2	15.6	20.4	1.6	30.0	15+	7.2	6	0	0			14	-55	8	4		0	0										
COLUMBIA	65	1011.5	1019.7	27.4	10.6	19.0	1.2	32.8	12	1.7	7	3	0	10.6	62	23	-66	18	4	3	0	0	1.1	24	12.5	26	5	13	6	11	4.8	79
GRNVLLE-SPRTNBRG	292	984.4	1019.0	23.7	10.0	16.9	0.8	30.0	12	0.6	6	0	0	9.4	66	82	-27	25	8	3	0	0	1.0	23	14.8	W	5	12	8	10	5.1	69
SOUTH DAKOTA																																
ABERDEEN	395	968.8	1015.9	18.8	3.3	11.1	4.3	32.8	9	-5.0	5+	1	11	2.8	62	23	-27	7	8	0	25	25	0.8	1	14.8	35	4	10	6	14	5.7	
HURON	390	968.8	1015.7	18.7	4.4	11.6	3.9	32.8	9	-4.4	4	1	8	4.4	66	54	4	16	8	1	8	T	0.4	35	15.6	NW	5	8	10	12	5.9	77
RAPID CITY	964	905.9	1017.2	16.5	2.9	9.7	2.7	31.1	9	-6.1	2+	0	5	0.6	58	40	-13	19	9	1	86	178	2.4	35	19.2	NW	27	10	9	11	5.4	74
SIOUX FALLS	432	964.4	1016.0	18.8	5.4	12.1	4.3	31.1	9	-5.0	6	0	5	3.3	59	55	-3	29	8	2	T	T	0.3	33	15.6	31	5+	8	9	13	6.0	
TENNESSEE																																
BRISTOL	459	965.1	1019.2	22.4	8.0	15.2	1.7	28.3	18+	-2.2	7	0	2	6.7	61	138	54	68	8	5	T	T	1.0	25	18.3	25	5	7	10	13	5.6	
CHATTANOOGA	203	994.6	1019.1	24.4	10.1	17.3	1.4	30.6	17	0.6	6	0	0	10.6	72	231	119	67	9	7	0	0	0.6	25	14.3	18	18	10	8	12	5.4	57
KNOXVILLE	299	984.4	1019.2	23.9	10.4	17.2	1.4	29.4	17+	2.2	7+	0	0	10.0	67	177	85	93	10	5	0	0	1.0	28	13.0	22	2	10	8	12	5.7	82
MEMPHIS	79	1008.1	1018.5	25.2	13.5	19.4	2.4	31.7	16	5.0	6+	0	0	10.6	61	138	0	45	10	5	0	0	1.5	20	13.0	28	5	15	3	12	4.7	74
NASHVILLE	180	997.0	1018.6	23.7	10.7	17.2	1.6	30.6	17+	-0.6	6	0	1	9.4	65	200	96	76	11	6	T	0	1.0	22	15.6	23	23	12	4	14	5.4	63
OAK RIDGE R	276			22.9	7.3	15.1	0.4	28.9	13+	-1.7	6	0	3			216	109	158	11		0	0			17.4Y		5	12	8	10	5.3	
TEXAS																																
ABILENE	544	953.3	1015.7	23.1	10.7	16.9	-1.6	27.2	3+	2.2	5	0	0	8.9	64	79	16	35	8	7	0	0	2.7	17	15.6	SE	12+	14	4	12	4.9	68
AMARILLO	1098	891.3	1014.3	20.8	7.8	14.3	0.7	29.4	28	-2.8	4	0	2	5.6	63	70	38	31	7	7	T	T	2.2	21	17.0	24	1	10	7	13	5.8	60
AUSTIN	182	995.6	1017.6	25.2	13.7	19.4	-0.9	31.1	3	7.2	6	0	0	12.2	70	154	66	56	11	7	0	0	1.1	15	16.1	NE	16	10	9	11	5.4	60
BROWNSVILLE	6	1015.6	1016.3	28.6	17.7	23.2	-0.7	33.3	2	8.3	5	3	0	17.2	75	168	136	132	4	4	0	0	3.8	14	14.8	S	16	7	9	14	6.2	62
CORPUS CHRISTI	12	1015.2	1016.9	27.8	16.1	21.9	-0.7	33.3	3	6.7	5	1	0	16.7	76	152	98	106	5	4	0	0	3.4	12	12.5	14	15+	9	12	9	5.6	62
DALLAS - FORT WORTH	168	995.6	1016.9	25.3	13.3	19.3	0.9	31.7	27	6.1	6	0	0	11.7	67	109	0	50	10	4	0	0	2.0	20	13.0	33	5	11	8	11	5.2	
DEL RIO	313	979.0	1014.9	26.8	13.6	20.2	-2.0	31.7	3	6.7	5	0	0	11.7	62	68	28	28	8	6	0	0	3.3	12	13.9	31	29	12	6	12	5.2	
EL PASO	1194	881.1	1012.1	25.1	7.7	16.4	-1.3	32.2	30+	-0.6	4	2	1	-2.2	32	2	-4	2	3	4	T	0	1.2	25	14.3	28	1	14	10	6	4.1	86
GALVESTON	2			23.5	18.7	21.1	0.4	26.7	22	12.8	1	0	0			171	104	129	7		0	0			14.8	NW	20					58
HOUSTON INTERCON	29	1014.6	1018.1	26.0	12.8	19.4	-1.4	28.9	27+	4.4	6	0	0	14.4	77	110	20	74	7	4	0	0	1.2	12	10.3	4	20	12	5	13	5.5	68
LUBBOCK	992	904.2	1014.8	22.4	9.1	15.8	0.2	30.0	28	-0.6	4	0	1	5.6	58	74	46	28	9	7	0	0	1.9	18	16.1	25	1	13	6	11	5.1	75
MIDLAND	869	916.4	1014.0	24.0	8.8	16.4	-1.5	30.0	28	1.1	5	0	0	5.6	56	31	9	23	4	5	0	0	2.7	15	19.7	11	14	16	4	10	4.2	
PORT ARTHUR	5	1017.6		25.8	14.6	20.2	-0.3	28.9	19	7.8	6	0	0			122	15	98	6	2	0	0	1.8	16	11.6	S	3+	12	6	12	5.1	68
SAN ANGELO	580	949.2	1015.4	24.7	11.9	18.3	-1.2	30.6	1	3.3	5	0	0	8.9	58	130	87	55	7	7	0	0	1.9	15	13.4	23	20	13	4	13	5.0	
SAN ANTONIO	240	988.8	1016.6	25.4	13.3	19.4	-1.5	31.1	3	5.0	6	0	0	12.8	70	224	159	124	12	8	0	0	1.7	12	12.1	35	4	8	9	13	5.6	55
VICTORIA	32	1013.2	1017.2	26.6	14.9	20.7	-0.8	30.6	3	7.8	5	0	0	14.4	73	99	32	47	11	7	0	0	2.0	11	17.0Y	E	16	11	7	12	5.5	
WACO	153	999.0	1017.2	25.4	13.7	19.6	-0.1	30.0	28+	7.8	5	0	0	12.8	72	187	85	74	11	7	0	0	2.0	16	12.5	32	4	13	4	13	5.4	
WICHITA FALLS	303	979.7	1016.3	24.4	10.4	17.4	-0.6	29.4	27	1.1	5	0	0	10.0	70	64	-17	32	9	6	0	0	2.2	18	13.9	32	4	12	7	11	4.9	
UTAH																																
MILFORD	1533	845.9	1015.2	19.8	-0.6	9.7	1.2	28.3	24	-8.9	20+	0	15			10	-13	9	2		117	76			21.0	NW	1	14	9	7	4.5	82
SALT LAKE CITY	1286	871.3	1015.0	19.7	4.9	12.3	2.7	29.4	24	-2.8	3	0	5	-1.7	43	15	-39	8	3	1	122	51	0.6	17	15.2	S	9	12	8	10	5.4	83
VERMONT																																
BURLINGTON	101	1004.4	1016.9	13.3	1.5	7.4	1.3	28.3	21	-7.8	9	0	13	-1.1	57	80	13	27	9	1	46	51	0.8	25	18.3	S	11	5	11	14	6.7	51
VIRGINIA																																
LYNCHBURG	279	985.1		22.1	7.7	14.9	1.2	32.2	12	-4.4	7	1	3			123	54	51	8		0	0	1.3	26	13.9	W	5	13	8	9	5.1	70
NORFOLK	7	1018.6	1019.5	22.5	10.7	16.6	2.3	31.1	13+	1.7	10	0	0	7.8	60	56	-13	15	8	2	0	0	0.8	20	14.3	24	5	13	11	6	4.4	80
RICHMOND	50	1012.5	1018.9	24.5	7.8	16.2	1.8	33.3	12	-3.9	7	4	3	6.7	59	59	-11	33	5	1	0	0	0.7	25	13.0	W	6+	10	12	8	5.1	70
ROANOKE	350	977.0	1018.9	22.1	7.7	14.9	1.7	31.1	12	-2.8	9+	0	2	6.1	61	89	18	67	8	3	T	0	1.2	27	21.5	27	5	11	9	10	5.5	
WALLOPS ISLAND	3			18.7	8.5	13.6	1.3	32.2	13	0.0	10+	1	2			40	-39	14	7		0	0			22.8Y	SW	5					
WASHINGTON																																
OLYMPIA	59	1012.9	1020.3	17.8	2.4	10.1	1.1	26.7	22	-2.2	19	0	12	5.6	76	32	-47	12	9	1	T	0	1.2	22	13.0	21	25	3	10	17	7.2	
QUILLAYUTE	55	1012.9	1020.4	13.9	2.7	8.3	0.7	22.2	30	-1.1	20	0	7	5.0	81	99	-108	24	16	0	T	0	1.0	20	9.4	SE	8	5	6	19	7.6	54
SEATTLE U	6			16.3	6.2	11.3	1.1	23.3	22	2.8	20+	0	0			34	-27	14	7		0	0			19.2Y	SSW	25					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1004.1	1020.6	17.3	6.6	12.0	2.7	25.6	22	2.8	20	0	0	5.0	66	14	-49	3	9	0	0	0	1.0	25	14.3	SW	25	3	8	19	7.2	
SPOKANE	718	933.3	1017.5	18.3	2.6	10.5	2.7	32.2	24	-3.9	19+	1	10	-2.2	44	3	-25	3	1	0	T	0	1.5	21	16.1	SW	8	6	15	9	5.9	66
STAMPEDE PASS R	1206	881.5		9.6	0.9	5.3	3.3	24.4	24	-5.6	14	0	16			68	-101	14	14		470	1626										
WALLA WALLA U	289			21.1	7.0	14.1	2.5	33.9	24	1.7	2	1	0			5	-31	3	4		0	0			14.3	SW	25	8	14	8	5.1	71
YAKIMA	321	979.7	1018.3	21.3	3.2	12.3	2.0	33.3	24	-3.9	17	1	8	-1.7	40	T	-13	T	1	0	0	0	1.9	29	13.0	31	1	9	8	13	5.7	
WEST INDIES																																
SAN JUAN P.R.	4	1014.2	1016.7	30.5	23.0	26.8	1.5	34.4	17	20.6	26	5	0	19.4	66	24	-62	8	12	0	0	0	4.2	8	15.2	NE	20	4	17	9	6.1	65
WEST VIRGINIA																																
BECKLEY	763	930.9	1019.3	18.9	6.3	12.7	1.8	26.1	18+	-5.6	9+	0	7	4.4	63	159	75	96	11	6	56	25	1.7	24	15.6	14	4	8	7	15	6.7	
CHARLESTON	286	984.4	1018.7	21.6	7.7	14.7	1.4	29.4	21	-4.4	7	0	5	4.4	55	103	19	63	12	5	38	25	1.3	25	14.8	26	5	9	5	16	6.0	
ELKINS	594	947.9		19.9	2.8	11.4	1.6	27.2	19	-10.6	9+	0	9			72	-20	27	12		66	25						8	9	13	6.3	
HUNTINGTON	252	988.2	1018.4	22.8	8.6	15.7	2.6	31.1	20	-1.7	7	0	3	5.0	53	91	8	29	10	4	T	0	0.8	20	13.0	26	5	8	5	17	6.9	
PARKERSBURG U	187			20.7	6.9	13.8	1.2	29.4	20+	-3.3	9	0	6			61	-27	22	8		30	25			15.6	N	28					60
WISCONSIN																																
GREEN BAY	208	990.9	1016.7	15.7	2.3	9.0	2.4	28.3	27	-10.6	6	0	11	1.7	63	85	16	32	13	3	300	279	0.2	35	17.0	NE	27	7	10	13	6.3	66
LA CROSSE	198	992.2	1016.9	18.9	6.2	12.6	3.9	31.1	27	-3.9	6	0	8	4.4	63	92	25		7	1	13		0.4	21								
MADISON	262	984.8	1016.4	18.7	3.4	11.1	3.7	30.6	18	-6.7	6	0	11	3.3	63	66	-2	28	9	2	58	25	0.7	23	13.0	NW	5	5	14	11	6.1	63
MILWAUKEE	205	991.5	1016.9	15.2	3.5	9.4	2.3	28.3	11+	-5.0	6	0	9	2.2	65	53	-17	16	13	2	53	51	0.6	32	17.9	SW	11	5	14	11	6.2	65
WYOMING																																
CASPER	1627	838.1	1016.7	15.4	0.7	8.1	2.1	26.1	26	-13.9	3	0	14	-2.2	57	27	-10	7	11	4	122	25	0.8	30	13.4	23	9	11	6	13	5.7	
CHEYENNE	1867	811.7	1015.7	13.7	0.4	7.1	1.1	23.9	9	-11.1	3	0	12	-3.3	54	47	7	17	12	2	178	152	1.8	32	16.5	NW	5	12	4	14	5.7	49
LANDER	1696	830.0	1016.7	15.2	1.1	8.2	2.1	25.0	26	-12.8	3	0	15	-2.8	53	37	-23	15	7	2	422	483	0.7	21	14.3	NW	24	10	8	12	5.6	75
SHERIDAN	1208	879.8	1017.6	17.1	-0.2	8.4	2.0	27.2	26	-10.6	3	0	14	-1.1	54	29	-24	12	8	1	259	406	1.8	29	15.2	NW	3	12	6	12	5.5	72

HEATING DEGREE DAYS

(Base 65°F.)

APRIL 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	73	3477	2824
HUNTSVILLE	105	3903	3270
MOBILE	28	2361	1684
MONTGOMERY	53	3003	2261
ALASKA			
ANCHORAGE	872	8288	10016
ANNETTE	604	5533	6251
BARROW	2141	18034	17882
BARTER ISLAND	2080	18227	17706
BETHEL	1533	11560	12029
BETTLES	1510	13572	14933
BIG DELTA	1026	10697	12861
COLD BAY	1006	8293	8486
FAIRBANKS	1107	12019	13585
GULKANA	977	10517	12948
HOMER	890	7780	9171
JUNEAU	673	6490	8089
KING SALMON	1173	9479	10459
KODIAK	899	7251	7725
KOTZEBUE	1843	13897	14334
MC GRATH	1403	12917	13554
NOME	1667	12226	12804
ST. PAUL ISLAND	1156	9469	9463
TALKEETNA	1020	9343	10773
UNALAKLEET	1653	11853	12689
VALDEZ	858	8047	9478
YAKUTAT	795	7035	8401
ARIZONA			
FLAGSTAFF	603	6263	6641
PHOENIX	33	1042	1552
TUCSON	65	1621	1752
WINSLOW	319	5174	4595
YUMA	23	885	1005
ARKANSAS			
FORT SMITH	88	4084	3319
LITTLE ROCK	70	3413	3333
CALIFORNIA			
BAKERSFIELD	31	1782	2163
BISHOP	245	3767	4130
BLUE CANYON	447	4266	5082
EUREKA U	468	3913	3997
FRESNO	42	2354	2590
LONG BEACH	74	962	1512
LOS ANGELES	111	951	1634
LOS ANGELES U	57	805	1160
MT SHASTA R	487	5156	5341
OAKLAND	198	2193	2602
RED BLUFF	40	2011	2616
SACRAMENTO	92	2375	2703
SANDBERG R	323	3610	4023
SAN DIEGO	103	732	1376
SAN FRANCISCO	278	2626	2712
SAN FRANCISCO U	261	2267	2629
SANTA MARIA	297	2273	2641
STOCKTON	41	2228	2724
COLORADO			
ALAMOSA	655	8454	7998
COLORADO SPRINGS	494	6012	6069
DENVER	414	5363	5683
GRAND JUNCTION	250	5419	5452
PUEBLO	318	5386	5218
CONNECTICUT			
BRIDGEPORT	470	5568	5212
HARTFORD	419	6207	6100
DELAWARE			
WILMINGTON	333	5340	4812
DIST.OF COLUMBIA			
WASHINGTON DULLES	303	5361	4874
WASHINGTON NATIONAL	188	4403	4139
FLORIDA			
APPALACHICOLA U	35	1986	1361
DAYTONA BEACH	20	1178	897
FORT MYERS	0	616	457
JACKSONVILLE	46	1995	1327
KEY WEST	0	95	64
LAKELAND U	5	940	678
MIAMI	0	271	206
ORLANDO	8	1026	733
PENSACOLA	29	2262	1578
TALLAHASSEE	46	2160	1563
TAMPA	6	1011	718
WEST PALM BEACH	0	404	299
GEORGIA			
ATHENS	86	3485	2955
ATLANTA	102	3821	3068
AUGUSTA	65	3058	2537
COLUMBUS	51	2894	2372
MACON	52	2826	2234
ROME	93	3842	3309
SAVANNAH	42	2439	1957
IDAHO			
BOISE	342	5766	5484
LEWISTON	300	4680	5148
POCATELLO	445	6569	6589
ILLINOIS			
CAIRO U	110	4386	3795
CHICAGO O HARE	332	6718	6212
CHICAGO MIDWAY	344	6682	5893
MOLINE	286	6894	6191
PEORIA	273	6713	5901
ROCKFORD	318	7456	6577
SPRINGFIELD	222	6185	5414
INDIANA			
EVANSVILLE	162	5231	4529
FORT WAYNE	322	6747	5970
INDIANAPOLIS	276	6298	5407
SOUTH BEND	327	6592	6182
IOWA			
BURLINGTON	262	6587	5961
DES MOINES	234	6440	6498
DUBUQUE	343	7597	6981
SIOUX CITY	296	7000	6731
WATERLOO	399	7969	7147
KANSAS			
CONCORDIA	240	5429	5449
DODGE CITY	198	4790	4910
GOODLAND	387	5844	5848
TOPEKA	180	5476	5112
WICHITA	170	4732	4590
KENTUCKY			
COVINGTON	276	6091	4923
LEXINGTON	208	5367	4615
LOUISVILLE	183	4980	4535
LOUISIANA			
ALEXANDRIA	23	2543	2200
BATON ROUGE	18	2205	1670
LAKE CHARLES	11	2048	1498
NEW ORLEANS	18	2023	1465
SHREVEPORT	46	2728	2162
MAINE			
CARIBOU	850	9487	8988
PORTLAND	674	7589	7011
MARYLAND			
BALTIMORE	245	4928	4619
MASSACHUSETTS			
BLUE HILL OBS R	503	6470	6010
BOSTON	414	5538	5376
WORCESTER	571	7054	6492
MICHIGAN			
ALPENA	643	8109	7913
DETROIT	363	6244	5964
DETROIT METRO	395	6799	6139
FLINT	468	7291	6670
GRAND RAPIDS	401	7181	6487
HOUGHTON LAKE	544	8320	7838
LANSING	439	7363	6576
MARQUETTE U	630	8225	7713
MUSKEGON	436	7174	6510
SAULT STE MARIE	744	9171	8497
MINNESOTA			
DULUTH	612	9464	9078
INTERNATIONAL FALLS	658	10253	9917
MINNEAPOLIS	365	7874	7823
ROCHESTER	371	8330	7857
ST CLOUD	419	8811	8459
MISSISSIPPI			
JACKSON	43	2926	2294
MERIDIAN	53	3143	2381
MISSOURI			
COLUMBIA REGIONAL	209	5832	4950
KANSAS CITY	192	5559	5038
ST JOSEPH	205	5660	5306
ST LOUIS	190	5478	4637
SPRINGFIELD	173	5050	4466
MONTANA			
BILLINGS	437	6176	6801
GLASGOW	497	7929	8474
GREAT FALLS	529	6151	7123
HAVRE	521	7066	8221
HELENA	535	6793	7595
KALISPELL	553	7141	7868
MILES CITY	415	7066	7484
MISSOULA	536	7054	7333
NEBRASKA			
GRAND ISLAND	280	6060	6201
LINCOLN	256	6315	6030
NORFOLK	287	6596	6741
NORTH PLATTE	395	6626	6440
OMAHA	219	6074	5881
SCOTTSBLUFF	360	5921	6403
VALENTINE	431	7166	6954
NEVADA			
ELKO	464	6233	6887
ELY	596	7056	7103
LAS VEGAS	45	2129	2591
RENO	405	5328	5549
WINNEMUCCA	430	5585	6121
NEW HAMPSHIRE			
CONCORD	594	7857	6987
MT WASHINGTON OBS	1275	13184	12320
NEW JERSEY			
ATLANTIC CITY	380	5604	4806
ATLANTIC CITY U	384	5082	4498
NEWARK	352	5464	4891
TRENTON U	337	5276	4812
NEW MEXICO			
ALBUQUERQUE	250	4791	4234
CLAYTON	355	5076	4997
ROSWELL	109	3521	3677
NEW YORK			
ALBANY	545	7009	6596
BINGHAMTON	537	7523	6890
BUFFALO	544	7074	6548
NEW YORK U	354	5308	4711
NEW YORK KENNEDY	418	5545	4987
NEW YORK LA GUARDIA	377	5244	4764
ROCHESTER	523	6834	6388
SYRACUSE	511	6860	6360
NORTH CAROLINA			
ASHEVILLE	198	4731	4123
CAPE HATTERAS P	104	3038	2684
CHARLOTTE	120	3861	3184
GREENSBORO	159	4361	3766
RALEIGH	132	4222	3466
WILMINGTON	78	2955	2426
NORTH DAKOTA			
BISMARCK	473	8278	8583
FARGO	466	9008	8840
WILLISTON	469	8306	8681
OHIO			
AKRON	354	6720	5960
CINCINNATI ABBE OB	255	5603	4719
CLEVELAND	423	6809	5870
COLUMBUS	324	6502	5513
DAYTON U	309	6360	5462
MANSFIELD	421	7257	5593
TOLEDO	381	7103	6120
YOUNGSTOWN	449	7097	6126
OKLAHOMA			
OKLAHOMA CITY	107	3836	3659
TULSA	99	3931	3652
OREGON			
ASTORIA	475	4255	4646
BURNS U	493	6300	6605
EUGENE	422	4209	4317
MEDFORD	358	4651	4586
PENDLETON	299	4779	4950
PORTLAND	358	4160	4400
SALEM	424	4435	4424
SEXTON SUMMIT R	510	4632	5657
PENNSYLVANIA			
ALLENTOWN	384	5923	5616
ERIE	519	6947	6435
HARRISBURG	340	5610	5096
PHILADELPHIA	258	5269	4743
PITTSBURGH	436	6850	5696
PITTSBURGH U	351	6073	5107
SCRANTON	487	6685	6030
WILLIAMSPORT	366	6212	5763
RHODE ISLAND			
BLOCK ISLAND	549	5992	5342
PROVIDENCE	434	6106	5677
SOUTH CAROLINA			
CHARLESTON	58	2646	2141
CHARLESTON U	35	2626	1904
COLUMBIA	69	3082	2586
GRNVLLE-SPRTNBRG	117	3805	3134
SOUTH DAKOTA			
ABERDEEN	395	8023	8221
HURON	374	7865	7710
RAPID CITY	459	6713	6871
SIOUX FALLS	341	7591	7514
TENNESSEE			
BRISTOL	184	5013	4208
CHATTANOOGA	111	4058	3454
KNOXVILLE	110	4088	3431
MEMPHIS	61	3396	3205
NASHVILLE	129	4378	3651
OAK RIDGE	169	4759	3867
TEXAS			
ABILENE	89	3197	2599
AMARILLO	215	4540	4092
AUSTIN	20	2273	1737
BROWNSVILLE	3	942	650
CORPUS CHRISTI	6	1341	930
DALLAS FT WORTH	37	2927	2382
DEL RIO	13	1928	1523
EL PASO	138	3253	2678
GALVESTON	3	1724	1224
HOUSTON INTERCON	25	2245	1434
LUBBOCK	153	3797	3516
MIDLAND	117	3011	2621
PORT ARTHUR	16	1983	1518
SAN ANGELO	45	2742	2240
SAN ANTONIO	32	2158	1570
VICTORIA	8	1755	1227
WACO	21	2615	2058
WICHITA FALLS	80	3398	2891
UTAH			
MILFORD	462	6168	6056
SALT LAKE CITY	333	5420	5658
VERMONT			
BURLINGTON	590	7794	7482
VIRGINIA			
LYNCHBURG	217	4783	4148
NORFOLK	150	3778	3435
RICHMOND	176	4326	3875
ROANOKE	203	4831	4206
WALLOPS ISLAND	271	4667	4123
WASHINGTON			
OLYMPIA	438	4872	4992
QUILLAYUTE	530	4824	5223
SEATTLE	374	3926	4325
SEATTLE-TACOMA	335	3762	4705
SPOKANE	436	6097	6364
STAMPEDE PASS R	701	7394	8247
WALLA WALLA U	250	4584	4611
YAKIMA	323	5447	5676
WEST VIRGINIA			
BECKLEY	310	6147	5350
CHARLESTON	242	5473	4467
ELKINS	377	6457	5676
HUNTINGTON	200	5206	4498
PARKERSBURG U	275	5643	4689
WISCONSIN			
GREEN BAY	500	8395	7669
LA CROSSE	344	7771	7154
MADISON	409	7907	7361
MILWAUKEE	490	7482	7006
WYOMING			
CASPER	549	6839	7020
CHEYENNE	602	6763	6705
LANDER	543	7069	7337
SHERIDAN	527	6968	7165

COOLING DEGREE DAYS

(Base 65 F.)

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	85	111	107
HUNTSVILLE	70	79	73
MOBILE	132	210	226
MONTGOMERY	113	140	147
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	0	0
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES	0	0	0
BIG DELTA	0	0	0
COLD BAY	0	0	0
FAIRBANKS	0	0	0
GULKANA	0	0	0
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	0	0
MC GRATH	0	0	0
NOME	0	0	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	0	0
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	0	0
PHOENIX	295	356	176
TUCSON	133	138	120
WINSLOW	2	2	9
YUMA	238	288	319
ARKANSAS			
FORT SMITH	60	60	63
LITTLE ROCK	67	74	54
CALIFORNIA			
BAKERSFIELD	115	127	77
BISHOP	5	5	19
BLUE CANYON	0	0	0
EUREKA U	0	0	0
FRESNO	62	62	41
LONG BEACH	14	24	23
LOS ANGELES	1	17	21
LOS ANGELES U	23	72	59
MT SHASTA R	0	0	0
OAKLAND	2	2	0
RED BLUFF	51	54	53
SACRAMENTO	12	12	26
SANDBERG R	1	1	0
SAN DIEGO	2	16	25
SAN FRANCISCO	0	0	0
SAN FRANCISCO U	0	0	0
SANTA MARIA	0	0	0
STOCKTON	55	55	22
COLORADO			
ALAMOSA	0	0	0
COLORADO SPRINGS	0	0	0
DENVER	2	2	0
GRAND JUNCTION	16	16	0
PUEBLO	1	1	6
CONNECTICUT			
BRIDGEPORT	0	0	0
HARTFORD	13	17	0
DELAWARE			
WILMINGTON	20	25	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	22	35	0
WASHINGTON NATIONAL	49	59	7
FLORIDA			
APPALACHICOLA U	104	167	221
DAYTONA BEACH	177	374	340
FORT MYERS	200	437	606
JACKSONVILLE	115	223	238
KEY WEST	371	944	1099
LAKELAND U	220	458	489
MIAMI	299	764	778
ORLANDO	182	388	462
PENSACOLA	118	195	247
TALLAHASSEE	123	210	223
TAMPA	210	439	487
WEST PALM BEACH	308	682	664
GEORGIA			
ATHENS	74	80	49
ATLANTA	51	54	39
AUGUSTA	77	110	91
COLUMBUS	135	173	124
MACON	127	161	149
ROME	75	87	38
SAVANNAH	130	202	168
HAWAII			
HILO	281	1085	769
HONOLULU	344	1280	972
KAHULUI	290	1053	862
LIHUE	273	1040	832
IDAHO			
BOISE	20	20	0
LEWISTON	34	34	0
POCATELLO	0	0	0
ILLINOIS			
CAIRO U	105	113	51
CHICAGO O HARE	39	39	0
CHICAGO MIDWAY	39	39	0
MOLINE	44	44	0
PEORIA	42	42	5
ROCKFORD	31	31	0
SPRINGFIELD	76	76	6
INDIANA			
EVANSVILLE	61	70	25
FORT WAYNE	41	41	0
INDIANAPOLIS	45	48	6
SOUTH BEND	47	47	0
IOWA			
BURLINGTON	49	49	5
DES MOINES	48	48	0
DUBUQUE	26	26	0
SIOUX CITY	21	21	6
WATERLOO	9	9	0
KANSAS			
CONCORDIA	14	14	10
DODGE CITY	23	25	14
GOODLAND	7	7	0
TOPEKA	40	40	22
WICHITA	19	22	31
KENTUCKY			
COVINGTON	22	29	8
LEXINGTON	52	63	21
LOUISVILLE	50	64	23
LOUISIANA			
ALEXANDRIA	113	176	137
BATON ROUGE	111	192	220
LAKE CHARLES	118	171	247
NEW ORLEANS	145	278	255
SHREVEPORT	69	104	154
MAINE			
CARIBOU	0	0	0
PORTLAND	1	1	0
MARYLAND			
BALTIMORE	37	47	0
MASSACHUSETTS			
BLUE HILL OBS R	4	[illegible]	0
BOSTON	13	14	0
WORCESTER	4	6	0
MICHIGAN			
ALPENA	0	0	0
DETROIT	32	33	0
DETROIT METRO	25	25	0
FLINT	12	12	0
GRAND RAPIDS	19	19	0
HOUGHTON LAKE	0	0	0
LANSING	19	19	0
MARQUETTE U	0	0	0
MUSKEGON	4	4	0
SAULT STE MARIE	0	0	0
MINNESOTA			
DULUTH	0	0	0
INTERNATIONAL FALLS	0	0	0
MINNEAPOLIS	12	12	0
ROCHESTER	18	18	0
ST CLOUD	5	5	0
MISSISSIPPI			
JACKSON	89	131	163
MERIDIAN	50	73	159
MISSOURI			
COLUMBIA REGIONAL	14	14	22
KANSAS CITY	39	39	21
ST JOSEPH	36	36	0
ST LOUIS	69	71	26
SPRINGFIELD	18	18	29
MONTANA			
BILLINGS	0	0	0
GLASGOW	1	1	0
GREAT FALLS	0	0	0
HAVRE	0	0	0
HELENA	0	0	0
KALISPELL	2	2	0
MILES CITY	8	8	0
MISSOULA	0	0	[illegible]
NEBRASKA			
GRAND ISLAND	24	24	8
LINCOLN	14	14	8
NORFOLK	30	30	0
NORTH PLATTE	2	2	6
OMAHA	45	45	10
SCOTTSBLUFF	6	6	0
VALENTINE	3	3	0
NEVADA			
ELKO	0	0	0
ELY	0	0	0
LAS VEGAS	161	161	104
RENO	0	0	0
WINNEMUCCA	0	0	0
NEW HAMPSHIRE			
CONCORD	5	5	0
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	15	17	0
ATLANTIC CITY U	6	6	0
NEWARK	18	24	0
TRENTON U	18	28	0
NEW MEXICO			
ALBUQUERQUE	0	0	6
CLAYTON	0	0	0
ROSWELL	34	34	26
NEW YORK			
ALBANY	8	[illegible]	0
BINGHAMTON	14	17	0
BUFFALO	12	12	0
NEW YORK U	22	25	0
NEW YORK KENNEDY	5	5	0
NEW YORK LA GUARDIA	10	10	0
ROCHESTER	16	19	0
SYRACUSE	12	13	0
NORTH CAROLINA			
ASHEVILLE	2	2	[illegible]
CAPE HATTERAS H	49	60	17
CHARLOTTE	50	52	34
GREENSBORO	50	53	22
RALEIGH	68	74	27
WILMINGTON	114	146	77
NORTH DAKOTA			
BISMARCK	3	3	0
FARGO	6	6	0
WILLISTON	0	0	0
OHIO			
AKRON	30	35	0
CINCINNATI ABBF OB	48	58	17
CLEVELAND	22	26	0
COLUMBUS	24	32	0
DAYTON U	36	40	5
MANSFIELD	18	18	0
TOLEDO	37	37	0
YOUNGSTOWN	28	32	0
OKLAHOMA			
OKLAHOMA CITY	37	46	53
TULSA	84	91	60
OREGON			
ASTORIA	0	0	0
BURNS U	0	0	0
EUGENE	0	0	0
MEDFORD	2	2	0
PENDLETON	16	16	0
PORTLAND	0	0	0
SALEM	0	0	0
SEXTON SUMMIT R	0	0	0
PACIFIC AREA			
GUAM TAGUAC R	405	1510	1539
JOHNSTON	355	1478	1426
KOROR R	530	2033	1948
KWAJALEIN	514	2049	1983
MAJURO	475	1935	1929
PAGO PAGO	487	2025	1853
PONAPE R	518	2050	1885
TRUK MOEN ISLAND	517	2019	1941
WAKE	384	1450	1501
YAP R	528	1958	1908
PENNSYLVANIA			
ALLENTOWN	13	17	0
ERIE	9	11	0
HARRISBURG	19	23	0
PHILADELPHIA	32	42	0
PITTSBURGH	14	17	0
SCRANTON	13	15	0
WILLIAMSPORT	18	18	0
RHODE ISLAND			
BLOCK ISLAND	0	0	0
PROVIDENCE	5	5	0
SOUTH CAROLINA			
CHARLESTON	107	162	118
CHARLESTON U	152	205	144
COLUMBIA	110	166	86
GRNVLLE-SPRTNBRG	46	47	37
SOUTH DAKOTA			
ABERDEEN	9	9	0
HURON	14	14	0
RAPID CITY	0	0	0
SIOUX FALLS	11	11	0
TENNESSEE			
BRISTOL	23	24	18
CHATTANOOGA	60	69	48
KNOXVILLE	57	76	56
MEMPHIS	123	146	79
NASHVILLE	74	85	48
OAK RIDGE	4	7	34
TEXAS			
ABILENE	17	34	139
AMARILLO	10	10	20
AUSTIN	90	135	228
BROWNSVILLE	272	505	655
CORPUS CHRISTI	206	332	437
DALLAS FT WORTH	94	101	119
DEL RIO	121	191	344
EL PASO	39	39	62
GALVESTON	160	185	256
HOUSTON INTERCON	91	140	252
LUBBOCK	19	19	49
MIDLAND	21	30	94
PORT ARTHUR	125	191	243
SAN ANGELO	53	73	182
SAN ANTONIO	98	153	257
VICTORIA	144	230	306
WACO	94	121	169
WICHITA FALLS	34	38	113
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	12	12	0
VERMONT			
BURLINGTON	7	7	0
VIRGINIA			
LYNCHBURG	38	43	8
NORFOLK	66	86	18
RICHMOND	66	88	18
ROANOKE	28	35	10
WALLOPS ISLAND	26	26	0
WASHINGTON			
OLYMPIA	0	0	0
QUILLAYUTE	0	0	0
SEATTLE	0	0	0
SEATTLE-TACOMA	0	0	0
SPOKANE	18	18	0
STAMPEDE PASS R	2	2	0
WALLA WALLA U	26	26	10
YAKIMA	5	5	0
WEST INDIES			
SAN JUAN P.R.	463	1624	1335
WEST VIRGINIA			
BECKLEY	11	12	0
CHARLESTON	50	68	21
ELKINS	6	7	0
HUNTINGTON	66	91	21
PARKERSBURG U	36	48	8
WISCONSIN			
GREEN BAY	5	5	0
LA CROSSE	41	41	0
MADISON	24	24	0
MILWAUKEE	12	12	0
WYOMING			
CASPER	0	0	0
CHEYENNE	0	0	0
LANDER	0	0	0
SHERIDAN	0	0	0

STORM SUMMARY

APRIL 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ϕ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama	7	1	23	138	7						2	5																	
Alaska											2	4							2	5									
Arizona *																													
Arkansas	1	1						2	2							5													
California												2																	
Colorado	2	2			5			2	2																		1	4	4
Connecticut												4																	
Delaware												3																	
Florida											1	4																	
Georgia	2	2	1	17	6			2	2		1	5	5		1														
Hawaii *																													
Idaho												4				3													
Illinois											2	5				6													
Indiana	1	1			4									1	1														
Iowa												4				4													
Kansas *																													
Kentucky	2	1		1	5							4														6	2	8	2
Louisiana	3	3	1	12	6																					1	2	7	6
Maine												5																	
Maryland & DC												4				3												3	
Massachusetts											1	4																	
Michigan	6	1	1	62	7				2			5																	2
Minnesota									4																				
Mississippi	5	2		1	5			2	2			3	2			2	2											5	2
Missouri	1	1			3			3	3																				
Montana *																													
Nebraska	4	4		1	5			4				4				3													
Nevada *																													
New Hampshire												4																	
New Jersey *																													
New Mexico	2	1			4			2	2			2																	
New York	1	1			4						2	5	2																
North Carolina	2	2			5																							6	2
North Dakota *																													
Ohio	4	1		6	6									1		1													
Oklahoma	4	2			3			2	3					1															
Oregon									5																				
Pacific *																													
Pennsylvania	2	2		1	6			1			1	5				5			1	4								4	
Puerto Rico *																													
Rhode Island *																													
South Carolina								2	3			4	3			4	3												
South Dakota *																													
Tennessee									2					1												10		7	7
Texas	33	7		18	6			5	5		1	4	4		2	5												4	4
Utah *																													
Vermont												4																	
Virginia	1	1			5			5				4				3										4	7	8	7
Virgin Islands *																													
Washington *																													
West Virginia											1	4														2		8	
Wisconsin	1	1		2	6															2									
Wyoming *																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1977

Herbert J. Thompson, Office of Hydrology

Major flooding with record crest stages occurred in several areas of the country during April. The most serious of these events was in a four state area of the Southern Appalachians where record stages were reported on the Cumberland, Guyandot, and Tug Fork Rivers, all tributaries of the Ohio River. Preliminary estimates of damages exceeded $424 million and 22 lives were lost. Major flooding occurred in south central and east central Louisiana where record stages were reported on the Amite and Comite Rivers with 2 lives lost and $48 million damage. Serious flooding also occurred on several streams in the East Gulf of Mexico Drainage with a record crest stage reached at Logan Martin Reservoir on the Coosa River in northern Georgia. Damages of $7.5 million were estimated and 2 lives were lost.

In south Texas the highest stages in 37 years were reported on the lower Colorado River and several other streams had their highest stages in several years. Considerable minor to moderate flooding was reported on streams in the eastern half of the country, some of which continued from March, while the drought continued in the Far West.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
The major storm event during April occurred on the 22d-25th as a slow moving low pressure system crossed the eastern portion of the country. Four day totals in southeastern lower Michigan amounted from 3 to 4.5 inches and resulted in minor flooding on the Clinton and Middle Rouge Rivers. The Tiffin River crested more than 2.5 feet over flood stage at Stryker, OH. Urban flooding was reported in Wayne County, Michigan. Flooding of agricultural land and secondary roads occurred along the Tiffin River. In western New York storm totals exceeded 4 inches with minor flooding on Cazenovia, Buffalo, and Oatka Creeks. Flooding was also reported on the Black River but no observation stations exceeded flood stage. In eastern New York storm totals were generally in the range of 2.5 to 3 inches but ranged up to nearly 5 inches. Otter Creek crested about 1.5 feet over flood stage at Center Rutland, VT. The heavy runoff during March caused Lake Champlain to exceed its flood stage slightly on April 2.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
Minor flooding continued into the first few days of April from the late March storm on several streams in the Northeast, including the lower Connecticut and the Housatonic Rivers in New England and the Chenango and upper Susquehanna Rivers in southern New York (see March Flood Report). Rains of up to 3 inches on the 23d-24th over most of southern New England caused flooding on the lower Connecticut River with crests 2 to 3 feet over flood stage. Minor flooding was reported on the 5th-6th on the Millstone and Raritan Rivers in New Jersey and Neshaminy and Brandywine Creeks in the Delaware Basin in Pennsylvania. The storm of the 22d-25th caused some minor flooding on the Mohawk and upper Susquehanna Rivers in southern New York.	0	N.A.
In the James River Basin in Virginia, heavy rain of 2 to 3 inches in the headwaters on the 4th-5th caused strong rises on all streams with the James River exceeding flood stage at	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
several points. Crests 5 to 6 feet over flood stage occurred at Lick Run, Buchanan, and Bremo Bluff. Downstream at Richmond a crest nearly 3 feet over flood stage was reported at the Westham gage. Minor flooding occurred on the Bent Creek tributary. This rain was associated with the storm that caused major flooding in the Ohio River Basin (see below). Minor flooding occurred at some points on the Roanoke River and bottomland flooding along the Dan River, although no reporting stations on the Dan River exceeded flood stage.		
The storm of the 4th-5th also caused rainfall of over 3 inches in western North Carolina with minor flooding on the Yadkin River. About 3 feet of flooding occurred on the middle Cape Fear River from heavy rainfall on March 29th-30th. Elsewhere in North Carolina lowland flooding continued from March on the Lumber River.	0	N.A.
Flooding on Atlantic coastal streams in South Carolina and Georgia during April was generally a continuation of March flooding and extended to the middle of April on some streams and on the lower Savannah River into May. Other streams affected included the Little Pee Dee, Pee Dee, Broad, Saluda, Congaree, Wateree, Edisto, Ogeechee, and Altamaha. A crest 7 feet over flood stage occurred on the Saluda River at Chappells, SC, on the 1st. The storm of the 4th-5th caused 4 to 5 feet of flooding on the Broad River at Blair, SC, the Saluda River at Chappels, SC, and the Santee River at Jamestown, SC. Losses of $5,000 were reported along the Wateree River and $75,000 in agricultural losses in the Savannah Basin. Other losses were discussed in the March Flood Report. Savings due to warnings during April were estimated at $60,000.	0	80
EAST GULF OF MEXICO DRAINAGE		
Major flooding occurred early in April on the Tombigbee, Coosa, Black Warrior, and Oostanaula Rivers in Alabama and Georgia, moderate flooding on the Tallapoosa and Cahaba Rivers in Alabama and the Chickasawhay, Bogue Chitto, and Pearl Rivers in Mississippi, and minor flooding on the Etowah River in Georgia, the Appalachicola and Escambia Rivers in Florida and Tibbee Creek in Mississippi.		
The heavy rains of late March, supplemented by additional rains of 2 to 3 inches early in April, caused about 7 feet of flooding along the Oostanaula River. The crest of 31.95 feet at Rome, GA, on the 6th was the highest stage there since 1948. Losses were about 90% urban and 10% agricultural.	0	1,352
Northern Alabama received rainfall almost every day during the period from March 28 to April 4, which totaled 7.65 inches at Birmingham for the period. This resulted in widespread urban and small stream flooding followed by extensive lowland flooding along major rivers. The most serious flooding was at Lake Logan Martin on the Coosa River, which reached a record high level of 475.31 feet on the 6th. About $2 million damage occurred to private lake front property and $50,000 damage was sustained by public roads in the area. There were two flood related deaths, one in east Birmingham and one at Springville in St. Clair County where $60,000	2	2,250

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
EAST GULF OF MEXICO DRAINAGE-Cont'd		
damage occurred to a highway bridge at Ashville. Other urban and small stream losses include: $80,000 to roads, bridges, streets, and drainage structures in Cullman County; $8,000 to a grocery store in Pickens County: and in Etowah County $8.000 to streets in Attalla, $5,000 in Reese City, and $5,000 to streets and $10,000 to apartments in Gadsden. The Coosa River crested more than 3 feet over flood stage at Gadsden causing losses to 19 homes and a hospital basement amounting to $25,000. Nearly 8 feet of flooding occurred on the lower Tallapoosa and upper Cahaba Rivers, and up to 11 feet of flooding occurred along the Alabama River. The Black Warrior River reached a stage of 59.3 feet at Tuscaloosa (flood stage 47 feet). Expensive flood protection preparations become necessary at a stage of 60 feet. Up to 14 feet of flooding occurred on the lower Tombigbee River. There was little agricultural damage at this season of the year although evacuation of farm machinery and cattle was necessary along some streams.		
Severe urban flooding occurred in the metropolitan area of Mobile, AL, on the 22d. Official rainfall was reported to be 1.58 inches in 2 hours. However, rainfall in the area of greatest damage was estimated at 3-5 inches in 2 hours. Private property losses were estimated at $1,210,000 and public property losses at $28,000.	0	1,238
In Mississippi two brief periods of flooding occurred on the Chickasawhay River at Enterprise and on the Pearl River from Monticello to Columbia. This resulted from two periods of heavy rainfall on the 3d-5th and 20th-23d with amounts of 3 to over 5 inches. The Chickasawhay crested about 7 feet over flood stage on the 7th and 24th. The middle Pearl River had 5-7 feet of flooding from the first period of rainfall and 1-5 feet of flooding from the second storm. Flooding on the upper Pearl resulted from the first storm with crests ranging from 6 feet over flood stage at Edinburg to 17 feet over flood stage at Jackson. The second storm deposited amounts of up to 15 inches over southwest Mississippi causing severe flooding on tributaries of the Mississippi River (see below). The Bogue Chitto received some of this heavy rain and reached nearly 7 feet over flood stage at Franklinton, LA. This storm also caused another crest about 5 feet over flood stage on the lower Pearl in Louisiana where flooding was in progress at the beginning of April and continued into May.	0	2,782
UPPER MISSISSIPPI BASIN		
Precipitation during April ranged from well above normal over portions of Minnesota and Wisconsin to below normal over the southern portions of the basin. Sub-surface soil moisture continued well below normal and streamflow was below normal. The only flooding reported was a continuation of that which resulted from heavy rainfall in late March. Streams affected were the Kankakee River in northern Indiana, the Bourbeuse and Meramec Rivers in southeastern Missouri and the Big Muddy River in southern Illinois (see March Flood Report). Flooding ended by the 1st on the Meramec to Bourbeuse Rivers but lasted until the 7th on the Kankakee River and until the 12th on the Big Muddy.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN		
Snowmelt runoff peaked during April in the headwater areas and the Black Hills with no flooding reported. There was no flooding on major streams in the basin but locally heavy thundershowers caused local flooding in some areas. These include: the Oak Creek Basin in Sherman County, Nebraska, where State Highway 92 was flooded near Ashton from rains of 4 inches on the 14th; flash flooding near Howard, KS, on the 13th with rains of up to 6 inches in 12 hours in the area; and flash flooding near Diamond Springs, KS, on the 30th with rains of up to 5 inches in the area.	0	N.A.
OHIO RIVER BASIN		
Record flooding occurred in the Ohio Basin early in April affecting the headwaters of the Kanawha, Guyandot, Big Sandy, Kentucky, Cumberland, and Tennessee tributaries of the Ohio in southern West Virginia, southeastern Kentucky, extreme western Virginia, and northeastern Tennessee. The rainfall producing storm built up in the Southern Plains and moved northeastward along a stationary front drawing warm moist air from the Gulf of Mexico. This unstable air, lifted by the Appalachians, resulted in rainfall amounts of 4 to 15.5 inches over the flooded area. The 15 inch center was over northern Buchanan County, Virginia on the State line and a 10 inch center was located over western Lee County, Virginia. Much of this rain fell in three bursts during a period of about 20 hours. The soil had been moistened by several days of light rain assuring that most of the excessive rainfall would run off.		
The maximum recorded amount of 15.5 inches occurred at Jolo, WV, in about 30 hours. It is about three times the amount which would be expected for a 100 year recurrence interval storm, and is estimated to have a recurrence interval of more than 1,000 years. The peak discharge of many smaller headwater streams were reported by the U.S. Geological Survey to have a recurrence interval of 100 years or more and greater than 200 years on the Cumberland River at Harlan, KY. This was the historical flood of record on many streams with records extending back to 1826 on the Powell River near Arthur, TN, and to 1862 on several other streams. Total damage exceeded $424 million with 22 lives lost. Detail of flooding by states is as follows:		
In West Virginia record flooding occurred all along the Tug Fork River with crests exceeding previous records by 8 to 10 feet. Records at Kermit go back to 1875. Small towns such as Matewan, Thacker, and Lobata were virtually washed away. At Williamson the crest of 52.56 feet exceeded flood stage by more than 15 feet and overtopped the flood wall set at 44.5 feet (the level of the record flood of 1963) by 8 feet. Many homes and businesses had water on the second story. Rainfall in the headwaters of the Tug Fork River ranged up to the 15.5 inch maximum and averaged over 7 inches. Flood damage was extensive along the Tug Fork from Welch down to the mouth near Louisa, KY, and amounted to $51,651,000 as estimated by the Corps of Engineers. Record flooding also occurred at Pineville on the Guyandot River where the crest of 17.76 feet exceeded the previous record crest of 1963 by 2.56 feet. From 7.5 to 9 feet of flooding occurred along the lower Guyandot with damages estimated at $10 million.	2	67,220

OHIO RIVER BASIN-Cont'd

In the headwaters of the Kanawha River where losses amounted to $1,219,000 the Greenbriar River crested about 6 feet over flood stage at Alderson and about 2.5 feet of flooding occurred on the New River at Radford, VA, and the Coal River at Tornado, WV. Up to 5 feet of flooding occurred on the Big Sandy River with losses of $169,000, and losses of $200,000 were reported in the Twelvepole Creek Basin from which no stage reports are received. The Ohio River crested 3 feet over flood stage at Point Pleasant, WV, with losses of $3,281,000 as estimated by the Corps of Engineers. The Red Cross reported the following damage in West Virginia:

	Destroyed	Major Damage	Minor Damage
Dwellings	591	1,345	3,650
Mobile Homes	257	301	
Apartments and Condominiums	10	71	
Small Businesses	--------508--------		

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
In southeastern Kentucky crest stages set modern records on the upper Cumberland River from Harlan down to Williamsburg and ranged from 14 to 23 feet over flood stage. At Baxter the crest of 34.2 feet was 5 feet over the previous record crest in 1963. The crest of 1021.7 feet on the Pine Street gage in Pineville was nearly 13 feet over the stage of 1009 feet reached in 1946 and 1969. The flood wall with a low elevation of 1019.3 feet was overtopped inundating the city. At Barbourville the crest of 45.91 feet was 3.1 feet over the previous record crest of 1946. Heroic sandbagging efforts by some 450 men in response to excellent warnings saved the flood wall from being overtopped although residents were evacuated from inside the flood wall as a precautionary measure. At Williamsburg the crest of 35.0 feet was 0.8 feet above the 1946 crest but 3 feet below the historic flood crest of 1886. Major flooding also occurred on the Levisa Fork of the Big Sandy River which drains the area of maximum rainfall. The tentative crest of 51.7 feet at Pikeville, KY, was 1.2 feet below the flood of record in 1957 and was 16 feet over flood stage. Downstream at Prestonburg and Paintsville 6 to 7 feet of flooding occurred. Damage along the Levisa Fork was estimated at $63 million by corps of Engineers. Serious flooding also occurred in the upper Kentucky River Basin. From 7 to 12 feet of flooding was reported along the North Fork of the Kentucky with losses of $6 million. Buckhorn Lake rose 48.5 feet in elevation from the runoff. From 12 to 16 feet of flooding occurred on the South Fork, and 4 feet of flooding on the main stem at Heidelberg. Elsewhere in Kentucky minor flooding occurred on the Licking, Red, and Green Rivers and from 2 to nearly 8 feet of flooding at some points along the Kentucky reach of the Ohio River. The Red Cross reported the following damage in Kentucky:	7	100,000

	Destroyed	Major Damage	Minor Damage
Dwellings	971	4,639	7,566
Mobile Homes	372	670	-
Apartments and Condominiums	-	5	35
Small Businesses	--------370--------		

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
In Virginia, the U.S. Geological Survey reported stages on a number of small streams in the headwaters of the Tennessee and Big Sandy Rivers including the Clinch, Powell and Holston Rivers. Crests exceeded previous floods of record by up to 11 feet with known floods dating back to 1862 in some cases. Flooding on these streams is generally in the nature of flash flooding and no stage reports are received by the National Weather Service. Hardest hit counties were Buchanan with losses estimated at $94 million and Lee with losses of $52 million. These counties received the heaviest amounts of rainfall. Among the communities receiving heaviest damage were Grundy and Clinchport. Highway damage in western Virginia was estimated at $16 million. The Red Cross reported the following damage:	4	237,000

	Destroyed	Major Damage	Minor Damage
Dwellings	488	886	3,212
Mobile Homes	363	160	-
Apartments and Condominimums	-	2	15
Small Businesses	--------516--------		-

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
Record flooding was also reported on smaller streams in northeastern Tennessee - the headwaters of the Tennessee River-by the U.S. Geological Survey and Tennessee Valley Authority. No stage reports are received from this area by the National Weather Service. The Clinch River crested at 29.32 feet at Tazewell, TN, 17 feet over flood stage and 5.3 feet over the previous record flood of 1862. The crest of 38.96 feet on the Powell River at Arthur, TN, was 14 feet over flood stage and 9.5 feet over the previous record flood of 1826. Minor flooding occurred along the French Broad River in North Carolina with the greatest flooding of about 4 feet at Hot Springs, NC. Widespread minor to moderate flooding occurred in central Tennessee. The Emory River crested 9 feet over flood stage at Oakdale. Flash flooding on Norris Creek at Fayetteville caused a crest 5 feet over flood stage on the Elk River there. South Chickamauga Creek crested 5 feet over flood stage at Chickamauga. Minor flooding occurred on the Harpeth, Duck, and lower Tennessee Rivers.	9	20,706
This disastrous flooding affected 30,000 families in the four state area with an additional 9,000 families affected by power outages. A total of 15 counties in Kentucky, 6 in Tennessee, 17 in Virginia, and 11 in West Virginia were declared Federal Disaster areas. More detailed information on this flood is contained in the Report of the Disaster Survey Team which can be seen at National Weather Service Regional Offices in Kansas City, MO and Garden City, NY. A joint report on the meteorological and hydrologic aspects of this flooding is in preparation by the National Weather Service and U.S. Geological Survey.		
Some flooding also occurred during April in the northern portion of the Ohio River Basin as follows:		
Significant flooding occurred in the Scioto River Basin as a result of the storm of the 3d-4th. The Scioto River crested 2 feet over flood stage at Circleville, OH.	0	368

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

APRIL 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
Flooding continued from March in the lower Wabash Basin augmented by rains of the 3d-4th (see March flood report). Losses estimated by the Corps of Engineers include:		

	Acres Inundated	Damage
Wabash River	23,600	$248,000
Embarras River	8,300	90,000
Eel River	10,200	125,000
White River	9,900	157,000
Little Wabash River	14,600	277,000
Skillet Fork	29,500	377,000
Totals	96,100	$1,274,000

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
Flooding along the Skillet Fork was reported to be the worst in 10 years by local residents.		
Minor flooding occurred on the lower Ohio River from Brookport, IL, to the mouth as a result of the heavy tributary inflow. Flooding ranged from 3.5 feet at Brookport to 1.4 feet at Cairo, IL.	0	N.A.
WHITE BASIN		
Flooding from heavy rains of late March (see March Flood Report) continued into April on the Cache, lower Black, and middle White Rivers. Flooding began early in April on the lower White River as the flood wave moved downstream with crests ranging from about 2.7 feet over flood stage at Georgetown, AR, to 1.7 feet over flood stage downstream at St. Charles, AR. The period of flooding was extended by rains of 1 to 2 inches on the 2d-5th, but had ended on all streams by the 23d. Rains of 2 to 3 inches on the 18th-24th caused renewed flooding along the Cache River at the end of the month. Flooding was primarily of agricultural land with losses light this season of the year.	0	N.A.
ARKANSAS BASIN		
No stream flooding was reported in the basin during April. However, locally heavy thundershowers of an inch or more on the 14th, 15th, and 18th in the Pueblo, CO, area resulted in overflow of the Bessemer Irrigation Ditch since the headgates were open and some secondary gates were closed. At least 8 families evacuated their homes in the Avondale area as a precautionary measure.	0	N.A.
RED BASIN		
Flooding continued from March on the Sulphur River ending by the 8th. A period of rainfall of about 3 inches the middle of April caused a resumption of flooding, which lasted until the end of the month. Crests ranged from about 3 to 6.5 feet over flood stage. Flooding also continued from March on the Ouachita River at Camden, AR, ending on the 11th. Rainfall during the period April 18th-24th totaled up to 6.5 inches in central Arkansas and caused additional flooding at Camden with a crest 3.5 feet over flood stage on the 24th. Losses on both streams were light and primarily	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
RED BASIN-Cont'd		
agricultural.		
LOWER MISSISSIPPI BASIN		
Flooding continued from March on the St. Francis River at St. Francis, AR, and stayed slightly above flood stage there the entire month due to releases from Wappapello Dam. Flooding began early in April on the Big Black River in Mississippi as a result of late March rains of about 2 inches followed by 3 to 4 inch amounts over the headwaters on the 3d and again on the 4th. Crests were about 8 feet over flood stage.	0	N.A.
Record flooding occurred in the Amite River Basin in east central Louisiana and southwestern Mississippi during the period of the 20th-26th. Rainfall amounts during the 60-hour period from evening of the 19th to morning of the 22d ranged up to 15 inches with many reports of from 6 to 13 inches. The excessive rainfall and flooding extended westward into the Atchafalaya and Mermentau River Basins (see below). Most of the damage occurred in the Louisiana portion of the Amite Basin with 5 parishes declared disaster areas by President Carter. These were Ascension, East Baton Rouge, East Feliciana, Livingston, and Tangipahoa. Losses throughout the flooded area of Louisiana were: $35,704,000 private; $10,383,000 public; and $1,950,000 agricultural. Some 5,300 residences were damaged and about 12,000 people were evacuated. From 4 to 8 feet of flooding occurred along the Comite River with the crest of 25.52 feet at Comite, LA, exceeding the record crest of 1973 by 5.94 feet. Up to 12 feet of flooding occurred along the Amite River where the crest of 37.21 feet at Denham Springs, LA exceeded the previous record crest in 1973 by 4.6 feet. The stage at Denham Springs was affected by the bridge - culvert under Interstate Highway 12 which was unable to pass the record flow and added an estimated 1.5 feet to the crest at Denham Springs. A new record crest also occurred upstream at Darlington on the Amite River where the crest of 21.76 feet was 1.57 feet above the previous record flood crest in 1973. Much of the damage was caused by flooding of small streams from which no reports are received by the National Weather Service. Crest stage data for many of these streams are available from the U.S. Geological Survey or the Corps of Engineers.	1	48,037
WEST GULF OF MEXICO DRAINAGE		
The heavy rainfall of the 19th-22d also covered much of the Atchafalaya, Vermilion, and Mermentau River Basins. Amounts ranged up to the 15 inches reported at Mermentau, LA for the 60-hour period. Extensive small stream flooding occurred with St. Martin, St. Landry, and Lafayette Parishes declared Federal Disaster Areas. Estimates of losses are included in that for the Amite Basin above. The Mermentau River crested more than 4 feet over flood stage at Mermentau, LA.	1	W
In eastern Texas flooding from late March rains continued in the upper Sabine, Neches, and Trinity River Basins (see March Report). Crests ranged from 3 to 7 feet over flood stage in the Emory to Longview reach of the Sabine during the first 10 days of April with extensive flooding of low lying agricultural land in the Gladewater area. The upper Sabine Basin	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Cont'd		
received an average of 8 inches of rainfall during April which caused additional but less serious flooding along the same reach of the river with crests 1 to 4 feet over flood stage. The Neches Basin received an average of 4 inches of rain during April which was sufficient to sustain minor lowland flooding along portions of the Angelina and Neches Rivers throughout the month. Minor flooding also occurred on Pine Island Bayou from 2 to 4 inches of rain on the 20th. In the Trinity Basin flooding from late March rainfall began at Long Lake, TX, on the 2d with a crest 7.5 feet over flood stage on the 5th and lasted throughout the month. Rainfall averaged 5 inches over the upper Trinity Basin during April which extended the flooding at Long Lake and caused additional flooding at Trinidad, TX, where a crest 7.5 feet over flood stage occurred on the 21st. The excessive runoff from the upper Trinity Basin necessitated releases from Lake Livingston which caused up to 4 feet of flooding on the lower Trinity River which continued into May. Agricultural interests experienced significant delays and loss of revenue from the extended lowland flooding February through April.		
In the Brazos River Basin about 2 feet of flooding occurred along the Navasota River in response to rains of 3 to 4 inches on the 16th. On the 21st-22d rains of 3 to 4 inches over the middle reach of the Brazos caused bottomland flooding and the highest stages in several years from Valley Junction down to East Columbia where a crest about one foot over flood stage occurred.	0	N.A.
An extended period of rainfall over south Texas on the 13th-22d caused the highest stages in many years on several streams in the area. Totals for the period ranged from about 4 to over 11 inches. In the Colorado Basin this amount fell on the 14th-16th over that portion of the basin above Lake Travis. About 5 feet of flooding occurred along the San Saba tributary and over 6 feet along the Llano. The highest stages in several years occurred along the Pedernales but stage reports were not received. However, the Lower Colorado River Authority reports a peak inflow to Lake Travis from the Pedernales of 95,000 c.f.s. on the 16th. An 11 inch rainfall center was reported just south of the LBJ ranch on the 15th-16th. The heavy runoff from these three streams eventually entered Lake Travis causing a peak level of 692.56 feet MSL. About 100 homes located in the flood storage portion of the lake were flooded with losses of $250,000. The discharge through the flood gates of Lake Travis reached 25,000 c.f.s. on the 17th. This flow moved down the Colorado River reaching the LaGrange area to coincide with runoff from rains of 6 to 8 inches in the area on the 20th producing the worst flooding from LaGrange to the mouth since 1940. A crest more than 6 feet over flood stage occurred at Wharton, TX, but the major damage occurred in the tidal flats below Matagorda. The crest at Matagorda was about 2 feet over flood stage as reported by the Lockmaster of the Intercoastal Canal. The Twin Buttes Reservoir in the headwaters of the Colorado reached a record capacity of 207,000 acre-feet the last week of April.	0	N.A.
Further south rains of up to 4 inches caused about 5 feet of flooding along the Navidad River and minor flooding along the Lavaca. In the Guadalupe River Basin rainfall of 3.5 to 6	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)

WEST GULF OF MEXICO DRAINAGE-Cont'd

inches on the 15th-16th and about 4 inches on the 20th in the Luling - Gonzales - Waelder area produced as much as 14 feet of flooding on the Guadalupe River from Gonzales downstream. The crest at Victoria, about 9 feet over flood stage, was the highest there in several years. Flooding continued into May on the lower Guadalupe. In the Nueces River Basin rain during the period of the 13th to 20th totaled from 5 to over 11 inches, most of which occurred on the 16th and 20th. The Atascosa River crested nearly 11 feet over flood stage at Whitsett, TX, on the 21st and the Frio River crested 18 feet over flood stage at Calliham on the 14th and 13 feet over flood stage there on the 22d. The lower Nueces River reached nearly 14 feet over flood stage at Mathis Bridge on the 21st. Flooding continued into May downstream at Calallen.

ALASKA

At the end of April the Soil Conservation Service reported one of the deepest snowpacks ever recorded in North America in the Chugach, Kenai, and St. Elias Mountains. However, lower elevation areas around these mountains were practically devoid of snow. Heavier than normal snowpacks were reported in the lower Kuskokwim and Susitna Basins and at Valdez. Spring breakup began as the ice went out at Northway on the Chisana River on the 29th. No flooding occurred until May.

PUERTO RICO

Severe to extreme meteorological drought continued in Puerto Rico and the Virgin Islands. Soil moisture deficiencies were 5 to 6 inches in southwest Puerto Rico and eastern St. Croix Island. Water levels continued to drop in the Rio Grande de Loiza and the greater portion of the San Juan Metropolitan area continued on water rationing 12 hours daily. Streamflow in the watershed was at record lows.

W Included in Losses for Amite River Basin (above).

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages—dates		Crest	
		From–	To–	Stage	Date
	Ft			Ft	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Erie					
Clinton River:					
Fraser, MI	13	23 25	25 26	13.70 13.78	23 25
Middle River Rouge					
Garden City, MI	[illegible]	23 25	[illegible] 26	7.20 8.89	24 25
Tiffin:					
Stryker, OH	11	24	29	13.65	24
Maumee:					
Fort Wayne, IN	15	24	24	15.4	24
Cazenovia Creek:					
Ebenezer, NY	11	23	24	12.1	23
Lake Ontario					
Buffalo Creek:					
Gardenville, NY	7	23	24	[illegible]	23
Oatka:					
Garbutt, NY	[illegible]	24	26	5.7	25
Otter Creek:					
Center Rutland, VT	8	Mar 30 24	1 25	10.24 9.42	Mar 31 [illegible]
Lake Champlain:					
Rouses Point, NY	100	2		100.2	2
ATLANTIC SLOPE DRAINAGE					
Connecticut:					
Montague City, MA	28	Mar 31	2	[illegible]	1
Hartford, CT	16	Mar 31 25	8 28	20.0 19.0	2 26
Bodkin Rock, CT	8	1 26	9 28	11.0 10.1	3 27
Housatonic:					
Gaylordsville, CT	8	Mar 30	3	9.0	Mar 31
Schoharie Creek:					
Gilboa Dam Spillway, NY	1130	Mar 5	30	1132.4	Mar 14
Mohawk					
Little Falls, NY	15	25	26	16.5	25
Millstone:					
Blackwells Mills, NJ	[illegible]	5	6	9.10	5
Raritan:					
Manville, NJ	12	5	5	13.37	5
Bound Brook, NJ	26	5	5	26.3	5
Neshaminy Creek:					
Langhorne, PA	9	5	5	9.02	5
Brandywine Creek:					
Downingtown, PA	8	5	5	8.41	5
Chenango:					
Sherbourne, NY	8	Mar 29	1	9.30	Mar 31
Greene, NY	13	Mar 31	1	13.54	Mar 31
Susquehanna:					
Unadilla, NY	11	Mar 31	1	[illegible]	Mar 31
Bainbridge, NY	13	Mar 30	2	[illegible]	Mar 31
Conklin, NY	11	Mar 30 25	[illegible] 26	13.19 11.73	1 25
Bent Creek:					
Bent Creek, VA	16		6	16.67	6
James:					
Lick Run, VA	16	[illegible]	[illegible]	22.4	[illegible]
Buchanan, VA	17	5	[illegible]	22.8	6
Holcombs Rock, VA	22	5	6	23.43	6
ATLANTIC SLOPE DRAINAGE-Cont'd					
James-Continued:					
Bremo Bluff, VA	19	6		24.5	[illegible]
Richmond, VA Westham	[illegible]	[illegible]	8	14.86	[illegible]
Richmond, VA City Locks	[illegible]	[illegible]	8	10.69	[illegible]
Roanoke:					
Roanoke, VA	10	5	[illegible]	10.1	[illegible]
Randolph, VA	21	6	7	23.2	6
Cape Fear:					
Huske Lock & Dam, NC	42	1	2	44.5	[illegible]
Elizabethtown, NC	[illegible]	1	3	22.9	2
Yadkin:					
Yadkin College, NC	18	6	7	19.7	6
Lumber:					
Lumberton, NC	9	Mar 5	15	12.31	Mar [illegible]
Little Pee Dee:					
Galivants Ferry, SC	9	Mar 22	4	10.7	Mar 28
Pee Dee:					
Cheraw, SC	30	Mar [illegible]	1	35.44	1
Pee Dee, SC	[illegible]	Mar 10	14	22.51	6
Broad:					
Blair, SC	[illegible]	Mar 30 5	3 7	26.5 [illegible]	1 6
Saluda:					
Pelzer, SC	9	Mar 30	1	12.8	Mar 31
Chappells, SC	14	1 5	2 6	[illegible] 18.2	1 5
Congaree:					
Columbia, SC	[illegible]	Mar 31	2	22.2	1
St. Matthews 17 NW, SC	115	Mar 31	9	122.3	2
Wateree:					
Wateree Reservoir, SC	100	Mar 31	2	102.6	1
Santee:					
Jamestown, SC	10	6	14	14.7	[illegible]
Edisto:					
Givhans Ferry, SC	10	Mar 9	3	11.8	Mar 29
Savannah:					
Millhaven-Wade 2 SE, GA	15	3	25	17.6	11
Clyo, GA	11	Mar 10	17	15.7	15
Ogeechee:					
Scarboro, GA	8	Mar 7	4	9.9	Mar [illegible]
Eden, GA	9	Mar 8	11	11.9	Mar 29
Altamaha:					
Charlotte, GA	15	Mar 10	6	18.3	1
EAST GULF OF MEXICO DRAINAGE					
Apalachicola:					
Blountstown, FL	15	Mar 23 14	11 15	19.47 15.11	6 14
Escambia:					
Century, FL	17	1	3	[illegible]	1
Etowah:					
Canton, GA	[illegible]	5	[illegible]	18.52	5
Oostanaula:					
Resaca, GA	22	Mar 31	9	28.6	7
Rome, GA	25	Mar 31	[illegible]	31.95	6
Coosa:					
Gadsden, AL	511	[illegible]	9	514.40	[illegible]
Logan Martin Reservoir, AL	[illegible]	1	14	475.31	[illegible]

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From	To—	Crest Stage	Crest Date
	Ft.			Ft.	
EAST GULF OF MEXICO DRAINAGE-Cont'd					
Tallapoosa:					
Milstead, AL	[illegible]	1	1	[illegible]	[illegible]
Tallapoosa Water Plant, AL	[illegible]	[illegible]	4	[illegible]	2
Cahaba:					
Centreville, AL	21	Mar 30 5	1 6	30.6 26.3	Mar 30 6
Marion Junction, AL	36	1	3	38.6	2
Alabama:					
Montgomery, AL	35	Mar 31	11	41.8	2
Jones Bluff Lock & Dam, AL	122	1	5	124.9	3
Selma, AL	45	1 8	6 10	49.5 45.9	3 10
Millers Ferry Lock & Dam, AL	66	1	14	77.1	5
Claiborne, AL	40	2	17	48.0	8
Tibbee Creek:					
Tibbee, MS	23	4	8	24.6	6
Noxubee:					
Macon, MS	26	4	12	31.3	6
Black Warrior:					
Bankhead Lock & Dam, AL	189	5	6	192.2	6
Holt Lock & Dam, AL	140	5	7	148.0	5
Tuscaloosa Lock & Dam, AL	47	4	8	59.3	5
Warrior Lock & Dam, AL	30	1	13	41.9	9
Tombigbee:					
Amory, MS	20	4	9	25.6	6
Aberdeen, MS	34	6	10	36.8	7
Columbus, MS	27	7	9	29.3	8
Gainesville, AL	36	5	14	44.4	9
Demopolis Lock & Dam, AL	48	1	17	61.0	11
Coffeeville Lock & Dam, AL	43	Mar 31	20	55.1	15
Tallahala Creek:					
Laurel, MS	13	U	U	E18.5	24
Chickasawhay:					
Enterprise, MS	20	6 22	8 25	27.3 27.2	7 24
Bogue Chitto:					
Franklinton, LA	11	21	25	17.74	[illegible]
Pearl:					
Edinburg, MS	20	4	12	26.4	7
Carthage, MS	17	4	13	24.1	7
Jackson, MS	18	6	18	34.9	10
Monticello, MS	19	2 22	20 25	26.3 22.8	14 23
Columbia, MS	17	8 23	21 26	21.6 18.6	16 25
Bogalusa, LA	15	Feb 26	[illegible]	A20.13	22
Pearl River, LA	12	Mar 6	[illegible]	EA16.7	24
UPPER MISSISSIPPI BASIN					
Kankakee River:					
Dunns Bridge, IN	10	Mar 31	7	10.86	4
Bourbeuse River:					
Union, MO	15	Mar 30	1	#17.7	Mar 31
Meramec River:					
Pacific, MO	16	Mar 28	1	23.8	Mar 31
Eureka, MO	18	Mar 29	1	24.3	Mar 31
Valley Park, MO	16	Mar 29	1	#21.7	Mar 31
Big Muddy River:					
Plumfield, IL	20	Mar 30	1	#25.5	Mar 30
UPPER MISSISSIPPI BASIN-Cont'd					
Big Muddy River-Continued					
Murphysboro, IL	16	Mar 28	12	#32.6	1
OHIO RIVER BASIN					
Mahoning:					
Youngstown, OH	10	2	U	10.44	3
Greenbrier:					
Marlinton, WV	10	5	5	10.50	5
Alderson, WV	14	5	6	19.82	5
New:					
Radford, VA	14	5	6	16.44	5
Coal:					
Tornado, WV	25	5	6	27.87	5
Guyandot:					
Pineville, WV	15	4	5	17.76	5
Logan, WV	23	4	5	30.55	5
Branchland, WV	30	5	8	39.09	6
Tug Fork Sandy:					
Iaeger, WV	30	4	5	E32.8	4
Williamson, WV	27	4	7	52.56	5
Kermit, WV	38	5	7	E54.5	6
Levisa Fork Sandy:					
Pikeville, KY	36	4	6	51.7	5
Prestonsburg, KY	40	5	6	45.85	6
Paintsville, KY	35	5	7	42.18	6
Big Sandy:					
Louisa, KY	45	U	U	49.80	7
Scioto:					
Circleville, OH	14	4	5	15.99	4
Piketon, OH	16	7	7	16.0	7
Licking:					
Salyersville, KY	18	5	6	20.9	5
North Fork Kentucky:					
Whitesburg, KY	10	4	U	11.0	4
Hazard, KY	20	5	U	32.06	5
Jackson, KY	29	5	6	35.84	6
South Fork Kentucky:					
Oneida, KY	29	4	U	32.5	5
Booneville, KY	20	4	6	36.6	5
Red:					
Clay City, KY	12	5	6	14.50	6
Kentucky:					
Heidelberg, KY (Lock 14 Upper)	20	5	7	24.3	6
Green:					
Scottsville, KY (Upper)	27	9	14	#30.2	12
Embarras:					
Lawrenceville, IL	11	Mar 28	3	15.4	Mar 30
White:					
Spencer, IN	14	3	4	14.2	3
Edwardsport, IN	15	Mar 29 3	2 6	18.2 16.2	Mar 30 4
Petersburg, IN	16	Mar 29	9	17.7	Mar 31
Hazelton, IN	16	Mar 29	10	#17.9	1,3
Skillet Fork:					
Wayne City, IL	15	Mar 28	1	20.4	Mar 30
Little Wabash:					
Wilcox, IL	16	Mar 28	4	21.9	Mar 30

FLOOD STAGE DATA

(All dates in April otherwise specified)

APRIL 1977

River and station	Flood stage	Above flood stages—dates		Crest	
		From–	To–	Stage	Date
	Ft			Ft	
OHIO RIVER BASIN-Cont'd					
Little Wabash-Continued:					
Carmi, IL	[illegible]	Mar 29	11	30.5	[illegible]
Wabash:					
Montezuma, IN	14	Mar 30	1	14.4	Mar 30
Harpeth:					
Kingston Springs, TN	15	[illegible]	5	17.8	5
Cumberland:					
Cumberland, KY	12	5	[illegible]	17.88	4
Harlan, KY (near)	U	U	[illegible]	[illegible]	5
Baxter, KY	16	4	U	34.2	[illegible]
Pineville, KY (Pine Street)	1002MSL	[illegible]	U	1021.7	5
Pineville, KY (4 miles west)	[illegible]MSL	4	[illegible]	1012.7	[illegible]
Barbourville, KY	27	4	10	45.91	[illegible]
Williamsburg, KY	21	[illegible]	10	35.0	6
French Broad:					
Blantyre, NC	[illegible]	6	[illegible]	17.2	6
Asheville, NC	8	5	[illegible]	8.9	5
Marshall, NC	10	5	[illegible]	12.8	5
Hot Springs, NC	13	[illegible]	[illegible]	[illegible]	5
Emory River:					
Oakdale, TN	25	[illegible]	[illegible]	[illegible]	[illegible]
South Chickamauga Creek:					
Chickamauga, TN	16	Mar 30 3	[illegible] 7	[illegible] [illegible]	Mar 31 [illegible]
Elk:					
Fayetteville, TN	661	[illegible]	[illegible]	666.4	4
Prospect, TN	26	U	U	31.4	6
Duck:					
Columbia, TN	32	[illegible]	[illegible]	32.2	6
Tennessee:					
Whitesburg, AL	560MSL	3	10	[illegible]	8
Florence, AL	419MSL	4	10	423.3	[illegible]
Savannah, TN	380MSL	6	10	382.3	8
Ohio:					
Wellsburg, WV	30	3	4	31.1	3
Racine, WV	38	6	6	Ø38.00	6
Point Pleasant, WV	40	5	7	43.00	6
Ashland, KY	51	6	8	Ø53.[illegible]	7
Maysville, KY	50	[illegible]	8	Ø50.7	7
Cannelton Dam	16	11	11	Ø16.4	11
Tell City, IN	38	10	12	Ø40.6	11
Newburg, IN Dam 47 Upper	20	8	16	Ø25.6	12
Newburgh, IN Dam 47 Lower	38	8	15	Ø43.0	12
Mt. Vernon, IN	35	10	15	38.4	13
Uniontown, KY Dam 49 Upper	19	10	15	21.6	13
Uniontown, KY Dam 49 Lower	37	10	15	39.2	13
Shawneetown, IL	33	9	[illegible]	39.0	[illegible]
Fords Ferry, KY Dam 50 Upper	34	8	17	41.6	14
Brookport, IL Dam 52 Upper	37	[illegible]	16	40.5	10
Grand Chain, IL Dam 53	[illegible]	8	16	44.5	11
Cairo, IL	40	9	15	41.4	12
WHITE BASIN					
Cache:					
Patterson, AR	7	Mar [illegible] 28	23 [illegible]	A 8.8 8.0	[illegible] 30
Black:					
Pocahontas, AR	[illegible]	Mar 28	[illegible]	24.20	1
WHITE BASIN-Cont'd					
Black-Continued:					
Black Rock, AR	[illegible]	Mar [illegible]	14	25.6	2
White:					
Newport, AR	[illegible]	Mar 30	[illegible]	29.2	Mar 31
Augusta, AR	26	Mar [illegible]	[illegible]	[illegible]	[illegible]
Georgetown, AR	21	[illegible]	[illegible]	[illegible]	[illegible]
Des Arc, AR	[illegible]	4	13	26.1	8
Clarendon, AR	[illegible]	[illegible]	20	29.4	10
St. Charles, AR	25	[illegible]	[illegible]	[illegible]	[illegible]
RED BASIN					
Sulphur:					
Hagansport, TX	44	Mar 27 18	[illegible] [illegible]	[illegible] 46.89	Mar [illegible] [illegible]
Naples, TX	22	Mar 29 [illegible]	[illegible] [illegible]	30.55 18.[illegible]	Mar 31 [illegible]
Ouachita:					
Camden, AR	26	Mar [illegible] [illegible]	11 [illegible]	[illegible] 30.9 [illegible]	[illegible] [illegible] [illegible]
LOWER MISSISSIPPI BASIN					
St. Francis:					
Fisk, MO	[illegible]	Mar [illegible]	[illegible]	[illegible]	1
St. Francis, AR	[illegible]	Mar [illegible]	May 1	23.4	Mar [illegible]
Big Black:					
West, MS	12	2	12	19.5	6
Bovina, MS	[illegible]	4	17	36.1	9
Comite:					
Olive Branch, LA	17	20	U	20.88	22
Comite, LA	18	1	U	[illegible]	[illegible]
Amite:					
Darlington, LA	18	20	[illegible]	21.76	22
Denham Springs, LA	[illegible]	U	[illegible]	[illegible]	[illegible]
Port Vincent, LA -	9	U	[illegible]	[illegible]	24
WEST GULF OF MEXICO DRAINAGE					
Atchafalaya:					
Morgan City, LA	[illegible]	21	22	[illegible]	21
Bayou Nezpique:					
Basille, LA	[illegible]	U	[illegible]	E24.42	22
Mermentau:					
Mermentau, LA		20	1	9.28	[illegible]
Calcasieu:					
Hineston, LA	12	Mar 31	[illegible]	[illegible]	[illegible]
Lake Fork:					
Quitman, TX (near)	16	Mar 28	U	17.60	Mar 30
Sabine:					
Emory, TX	12	Mar 28 21	[illegible] 27	[illegible] 13.14	Mar [illegible] 21
Mineola, TX	[illegible]	Mar 28	[illegible]	18.04	[illegible]
Gladewater, TX	26	[illegible] 18	14 [illegible]	33.18 29.70	6 24
Longview, TX	[illegible]	[illegible] 24	[illegible] [illegible]	29.60 26.25	10 24
Angelina:					
Lufkin, TX (near)	8	Mar 29	[illegible]	[illegible]	18
Pine Island Bayou:					
Sour Lake, TX	25	[illegible]	29	26.60	[illegible]
Neches:					
Alto, TX (near)	16	1	[illegible]	18.22	23

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages dates		Crest	
		From	To—	Stage	Date
	Ft			Ft.	
WEST GULF OF MEXICO DRAINAGE-Cont'd					
Neches-Continued:					
Diboll, TX (near)	10	Feb 7	1/	A13.85	28
East Fork Trinity:					
Crandall, TX	13	Mar 29 21	1 22	15.77 15.44	Mar 30 22
Chambers Creek:					
Corsicana, TX (near)	20	18 21	19 23	23.51 23.76	18 22
Trinity:					
Dallas, TX	30	Mar 28	17	37.83	Mar 29
Rosser, TX	26	Mar 30	4	34.04	Mar 30
Trinidad, TX	28	Mar 28 16	10 27	39.72 35.45	1 21
Long Lake, TX	35	2	1/	42.66	5
Liberty, TX	24	10	1/	27.95	24
Moss Bluff, TX	4	1	1/	# 8.4	25,26
Navasota:					
Easterly, TX (near)	14	Mar 31 17	2 26	14.7 16.1	1 19
Bryan, TX (near)	12	16	29	#13.64	20,21
Brazos:					
East Columbia, TX	30	22	26	31.2	23
San Saba:					
Minard, TX	12	U	U	17.3	16
Llano:					
Junction, TX (near)	14	U	U	20.0	15
Llano, TX (near)	12	15	16	18.55	16
Colorado:					
LaGrange, TX	32	19	21	35.5	20
Columbus, TX	24	20	23	28.50	22
Wharton, TX	26	21	25	32.35	23
Matagorda, TX	8	U	U	9.7	22
Navidad:					
Ganado, TX (near)	21	20	U	26.24	24
Lavaca:					
Edna, TX (near)	21	22	22	21.41	22
Guadalupe:					
Gonzales, TX	20	17 20	20 23	28.7 32.7	17 21
Cuero USGS, TX	20	16	27	34.4	23
Victoria, TX	21	16	1/	30.20	24
Dupont, TX	20	17	1/	27.6	25
Atascosa:					
Whitsett, TX	20	U	U	30.6	21
Frio:					
Tilden, TX	12	22	30	17.0	23
Calliham, TX	12	14 21	19 27	30.20 25.04	14 22
Nueces:					
Three Rivers, TX (near)	25	15	25	36.4	19
Mathis Bridge, TX	15	15	27	28.7	21
Calallen, TX	7	15	1/	9.6	22

A See Previous Monthly Reports for Additional Crest Information.

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
	Ft			Ft	

RAWINSONDE DATA

Average monthly values

ALBANY, NY
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	86	4.0	.1	26	1.4
1000	24	176	4.5	-3.3	28	7.1
950	30	585	4.6	-3.8	28	3.7
900	30	1,024	2.5	-5.4	29	5.4
850	30	1,465	.8	-7.5	29	8.6
800	30	1,951	-1.4	-9.6	29	10.9
750	30	2,463	-3.9	-12.5	29	12.6
700	30	3,005	-6.5	-16.3	29	14.3
650	30	3,572	-9.6	-21.0	29	17.0
600	30	4,176	-12.9	-24.6	29	18.7
550	30	4,855	-16.9	-28.5	28	20.7
500	30	5,564	-21.3	-33.9	29	20.8
450	30	6,334	-26.5	-38.2	28	23.1
400	30	7,174	-32.4	-41.8	28	21.3
350	30	8,106	-38.9	-46.8	28	22.2
300	30	9,145	-45.8		29	22.8
250	30	10,341	-52.5		29	23.5
200	30	11,749	-56.2		29	24.1
175	30	12,617	-56.8		29	23.0
150	30	13,596	-55.9		28	18.8
125	30	14,757	-56.0		28	14.1
100	30	16,169	-57.8		28	11.1
80	29	17,577	-57.7		29	8.4
70	29	18,422	-57.0		28	6.8
60	29	19,398	-57.2		25	3.7
50	29	20,552	-56.2		25	2.4
40	29	21,970	-56.3		25	1.7
30	29	23,801	-55.4		28	.1
25	29	24,966	-54.6		24	.9
20	27	26,397	-53.2		33	1.3
15	29	28,258	-50.7		31	1.8
10	19	30,921	-45.4		29	6.4
7	9	33,332	-40.8			

ALBUQUERQUE, NM
837 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,619	7.6	-.1	05	.9
1000						
950						
900						
850						
800	30	1,995	8.9	-3.7	21	1.9
750	30	2,526	5.7	-7.2	24	3.5
700	30	3,086	1.5	-10.0	26	4.0
650	30	3,679	-3.0	-13.0	27	4.0
600	30	4,307	-7.9	-16.7	28	4.2
550	30	4,977	-12.8	-21.8	27	4.3
500	30	5,697	-17.9	-27.8	26	4.5
450	29	6,484	-23.4	-34.5	26	5.7
400	29	7,334	-30.1	-41.3	26	6.4
350	28	8,271	-37.5	-44.3	26	7.5
300	28	9,314	-45.6		26	9.2
250	28	10,507	-53.5		26	12.1
200	28	11,923	-58.3		26	13.9
175	28	12,762	-59.5		26	15.9
150	28	13,732	-58.3		26	14.8
125	28	14,876	-60.0		26	14.2
100	27	16,263	-61.8		27	12.6
80	26	17,641	-62.4		26	8.3
70	26	18,466	-62.1		26	6.6
60	26	19,620	-61.4		27	5.1
50	25	20,555	-60.6		28	3.9
40	24	21,952	-58.4		28	4.1
30	24	23,772	-55.7		29	6.0
25	24	24,936	-54.6		27	6.8
20	24	26,372	-52.5		27	7.8
15	23	28,249	-49.3		27	9.0
10	17	30,955	-43.5		27	13.2
7	6	33,328	-39.1			

AMARILLO, TX
891 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,095	8.8	4.7	21	2.0
1000						
950						
900						
850	30	1,489	9.9	1.9	23	4.9
800	30	1,992	8.3	-2.4	25	5.5
750	30	2,572	5.0	-5.8	26	5.8
700	30	3,082	1.4	-9.1	26	5.5
650	30	3,674	-3.0	-13.0	27	5.2
600	30	4,303	-7.6	-17.7	27	5.8
550	30	4,974	-12.3	-23.2	26	6.1
500	30	5,695	-17.5	-28.8	26	7.2
450	30	6,476	-23.2	-35.5	26	8.7
400	30	7,327	-29.8	-41.8	25	10.8
350	30	8,268	-36.8	-47.1	25	13.3
300	30	9,314	-44.8		25	15.7
250	30	10,511	-53.0		25	16.2
200	30	11,976	-59.5		25	17.7
175	30	12,761	-59.2		26	16.4
150	30	13,729	-59.1		26	15.3
125	30	14,869	-60.3		26	13.3
100	30	16,295	-62.1		26	11.0
80	30	17,630	-63.0		26	8.7
70	30	18,453	-62.7		27	7.2
60	30	19,405	-61.8		28	4.8
50	30	20,538	-60.6		28	4.0
40	30	21,935	-58.1		30	3.4
30	30	23,760	-55.5		28	4.6
25	30	24,925	-54.6		27	5.7
20	29	26,359	-52.5		27	7.1
15	27	28,238	-49.2		27	9.0
10	22	30,941	-43.7		28	11.7
7	8	33,352	-38.8			

* ANCHORAGE, AK
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	45	-.1	-5.0	26	.6
1000	23	100	.3	-5.4	34	.3
950	30	480	-1.6	-8.0	06	1.0
900	30	909	-4.1	-9.7	13	2.8
850	30	1,357	-7.3	-11.5	14	5.3
800	30	1,827	-9.8	-14.4	15	6.2
750	30	2,323	-12.4	-17.8	17	6.6
700	30	2,848	-15.3	-21.4	18	7.1
650	30	3,404	-18.3	-24.8	19	7.8
600	30	3,998	-21.7	-27.9	20	8.8
550	30	4,634	-25.4	-31.9	21	10.0
500	30	5,320	-29.9	-35.9	21	11.5
450	30	6,063	-34.7	-37.8	22	12.1
400	30	6,876	-40.5	-40.8	22	13.7
350	30	7,777	-46.4		23	15.2
300	29	8,787	-51.3		23	18.1
250	29	9,963	-53.6		23	14.3
200	28	11,398	-51.5		23	9.6
175	28	12,268	-50.3		23	9.9
150	28	13,274	-50.1		23	9.2
125	28	14,466	-50.0		23	8.5
100	27	15,931	-50.0		23	6.5
80	27	17,389	-50.3		22	5.5
70	27	18,260	-50.4		22	4.7
60	27	19,265	-50.8		22	3.7
50	27	20,451	-51.6		20	2.8
40	27	21,897	-52.1		18	2.5
30	27	23,755	-53.3		13	2.0
25	26	24,935	-53.4		09	2.4
20	26	26,371	-53.7		08	3.8
15	24	28,221	-52.1		08	5.9
10	19	30,869	-48.3		09	8.8
7						

* ANNETTE, AK
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	37	4.8	1.8	15	1.1
1000	28	167	5.1	1.4	16	1.3
950	30	554	2.9	-.6	18	3.9
900	30	990	.3	-3.9	19	4.8
850	30	1,446	-2.6	-6.9	20	5.2
800	30	1,925	-5.1	-11.5	21	6.0
750	30	2,431	-7.5	-16.0	21	7.1
700	30	2,964	-10.8	-19.3	21	8.2
650	30	3,531	-13.8	-21.8	22	9.9
600	30	4,135	-17.6	-25.2	22	11.0
550	30	4,781	-21.9	-29.5	23	11.6
500	30	5,476	-26.4	-33.9	23	11.8
450	30	6,229	-31.7	-37.3	23	12.7
400	30	7,052	-37.6	-44.2	24	12.5
350	30	7,964	-44.2	-47.0	24	13.3
300	30	8,978	-51.1		25	12.4
250	30	10,150	-55.8		25	12.6
200	30	11,566	-56.9		25	10.3
175	30	12,416	-55.1		25	9.9
150	30	13,403	-54.2		25	7.4
125	30	14,573	-54.4		25	7.0
100	30	16,003	-54.4		26	5.9
80	29	17,422	-53.5		25	4.5
70	29	18,282	-53.3		24	3.3
60	29	19,274	-53.8		23	2.1
50	29	20,445	-54.0		24	2.0
40	29	21,873	-55.3		01	.6
30	25	23,707	-55.5		06	1.4
25	24	24,877	-55.5		05	2.8
20	23	26,298	-55.2		07	3.8
15	22	28,146	-53.4		07	3.9
10	15	30,792	-48.4		07	4.3
7	7	33,252	-43.4			

ATHENS, GA
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	246	12.2	9.1	23	.5
1000						
950	30	602	15.7	8.1	26	4.9
900	30	1,059	13.4	3.3	27	6.0
850	30	1,538	10.1	.8	28	6.9
800	30	2,039	7.0	-2.0	28	7.3
750	30	2,567	3.5	-5.6	27	7.1
700	30	3,123	.0	-10.2	26	7.8
650	30	3,714	-3.4	-14.3	26	8.4
600	30	4,343	-6.6	-19.4	26	9.6
550	30	5,017	-10.7	-23.2	26	11.0
500	30	5,743	-15.9	-29.2	26	13.1
450	30	6,529	-21.2	-33.7	26	14.3
400	30	7,398	-27.6	-40.7	27	14.7
350	30	8,337	-34.8	-44.6	27	15.4
300	30	9,392	-43.1	-46.4	26	16.7
250	30	10,597	-51.9		27	18.2
200	30	12,016	-59.3		28	21.7
175	30	12,851	-60.5		27	23.4
150	30	13,810	-60.5		27	21.2
125	30	14,944	-61.8		27	19.3
100	30	16,317	-64.5		27	14.5
80	29	17,683	-64.5		27	10.2
70	29	18,500	-63.9		27	7.3
60	29	19,449	-62.3		27	5.7
50	29	20,582	-59.5		27	3.8
40	29	21,986	-57.2		30	1.4
30	29	23,819	-54.4		31	2.2
25	29	24,991	-52.8		29	3.8
20	29	26,441	-50.4		28	4.8
15	27	28,318	-48.4		27	8.0
10	20	31,018	-43.0		26	15.6
7						

* BARROW, AK
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	8	-23.5	-25.6	10	.8
1000	29	128	-20.9	-22.4	09	1.1
950	29	509	-18.2	-19.9	11	.8
900	29	915	-16.7	-19.4	19	.6
850	29	1,344	-16.9	-21.6	21	1.2
800	29	1,798	-18.3	-25.5	22	1.8
750	29	2,278	-20.4	-28.2	23	2.2
700	29	2,786	-22.9	-30.9	24	2.8
650	29	3,327	-25.7	-34.2	25	3.6
600	29	3,903	-28.9	-37.3	25	4.8
550	29	4,521	-32.9	-39.8	25	6.0
500	29	5,186	-37.3	-42.7	25	7.0
450	29	5,906	-41.8		25	6.9
400	29	6,695	-47.1		25	7.9
350	29	7,573	-51.7		25	9.0
300	29	8,564	-53.6		24	9.8
250	29	9,744	-50.3		24	9.1
200	29	11,209	-48.3		24	8.8
175	28	12,082	-48.3		23	8.5
150	28	13,099	-47.9		23	8.4
125	27	14,301	-47.6		22	8.3
100	27	15,780	-46.5		22	7.8
80	26	17,262	-46.3		21	7.6
70	26	18,149	-46.4		21	6.7
60	25	19,181	-47.1		20	6.1
50	25	20,385	-47.9		18	5.0
40	24	21,855	-48.7		17	3.9
30	19	23,775	-49.2		12	3.6
25	10	25,060	-49.1			
20						
15						
10						
7						

BARTER ISLAND, AK
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	15	-22.0	-25.3	21	1.3
1000	30	121	-17.7	-20.4	22	.8
950	30	508	-15.1	-19.3	19	.7
900	30	917	-14.5	-18.5	18	.7
850	30	1,351	-14.6	-18.9	21	1.3
800	30	1,809	-15.5	-20.5	22	2.5
750	30	2,295	-17.6	-22.8	23	3.7
700	30	2,809	-20.3	-26.3	23	4.7
650	30	3,355	-23.0	-29.3	23	5.8
600	30	3,938	-26.1	-33.2	23	7.9
550	30	4,563	-30.1	-36.7	24	9.8
500	30	5,235	-34.6	-40.6	24	11.9
450	30	5,964	-39.4	-41.0	24	14.5
400	30	6,761	-44.8		24	16.2
350	30	7,646	-50.1		24	18.9
300	30	8,642	-53.4		24	19.8
250	30	9,818	-51.6		24	17.0
200	30	11,279	-48.7		24	13.4
175	30	12,158	-48.2		24	12.8
150	30	13,175	-47.9		23	11.9
125	30	14,379	-47.3		23	10.7
100	29	15,851	-47.1		23	9.9
80	27	17,318	-47.2		21	7.8
70	27	18,202	-47.5		21	6.1
60	27	19,219	-48.2		20	5.4
50	27	20,418	-48.8		20	4.6
40	26	21,880	-49.5		17	3.8
30	25	23,755	-49.8		14	5.3
25	23	24,963	-49.5		12	6.6
20	22	26,433	-48.7		11	9.5
15	19	28,330	-47.6		11	12.2
10	10	31,048	-44.3		11	14.7
7	7	33,458	-41.0			

BETHEL, AK
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	39	-11.9	-14.3	33	1.7
1000	21	114	-10.0	-12.6	34	1.4
950	30	475	-8.8	-12.1	01	2.1
900	30	894	-9.4	-13.5	34	.2
850	30	1,334	-10.7	-15.3	29	.7
800	30	1,799	-12.8	-19.1	29	1.7
750	30	2,291	-14.2	-22.0	27	2.2
700	30	2,811	-16.9	-25.1	26	2.7
650	30	3,365	-19.5	-28.2	26	3.0
600	30	3,956	-22.6	-31.2	25	3.4
550	30	4,590	-26.4	-33.8	26	4.7
500	30	5,273	-30.9	-37.3	26	5.9
450	30	6,015	-35.5	-41.7	26	6.5
400	30	6,822	-41.4	-44.3	25	8.0
350	30	7,721	-46.9		25	9.1
300	30	8,729	-51.6		24	10.5
250	30	9,908	-52.3		25	10.8
200	30	11,360	-49.5		25	9.5
175	30	12,235	-49.3		25	9.3
150	30	13,246	-49.3		24	7.9
125	29	14,432	-49.6		24	7.8
100	29	15,895	-49.4		24	6.9
80	29	17,356	-50.0		23	6.0
70	29	18,229	-50.2		23	4.7
60	29	19,235	-50.6		22	4.7
50	29	20,423	-50.9		21	3.8
40	29	21,874	-51.5		19	2.6
30	29	23,737	-52.3		17	2.0
25	25	24,907	-52.9		13	1.6
20	17	26,379	-53.0		09	1.8
15	13	28,297	-51.0		10	2.8
10						
7						

* BISMARCK, ND
957 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	503	3.3	-2.6	03	.4
1000						
950	25	577	5.3	-1.3	07	.6
900	30	1,005	7.4	-3.3	30	1.3
850	30	1,474	5.4	-7.1	30	3.3
800	30	1,968	2.6	-8.8	31	4.7
750	30	2,486	-1.1	-11.2	30	5.7
700	30	3,033	-4.8	-14.0	30	6.9
650	30	3,612	-8.4	-17.7	30	7.8
600	30	4,229	-12.2	-23.2	30	8.4
550	30	4,889	-16.0	-28.3	29	9.2
500	30	5,601	-20.9	-32.8	29	10.6
450	29	6,380	-26.1	-36.7	28	12.4
400	29	7,222	-32.5	-40.8	28	13.4
350	29	8,151	-39.9	-44.7	27	14.6
300	29	9,184	-47.7		27	13.7
250	29	10,366	-55.6		28	15.1
200	29	11,771	-60.1		28	15.4
175	29	12,606	-58.5		28	14.4
150	29	13,581	-56.3		28	12.7
125	29	14,740	-56.5		28	10.2
100	29	16,153	-56.9		28	9.0
80	28	17,566	-57.1		28	6.1
70	28	18,411	-57.5		28	5.0
60	28	19,385	-57.5		29	3.8
50	28	20,537	-57.4		29	2.9
40	23	21,963	-56.6		32	.9
30	23	23,795	-54.8		02	.6
25	22	24,963	-54.4		04	1.1
20	21	26,397	-53.2		08	1.7
15	19	28,266	-50.9		27	.4
10	14	30,906	-46.3		25	3.3
7	7	33,230	-41.9			

BOISE, ID
916 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	871	6.1	-5.7	14	.9
1000						
950						
900	30	1,016	10.0	-4.9	09	.6
850	30	1,491	8.7	-7.0	34	.9
800	30	1,989	5.6	-9.6	31	2.2
750	30	2,513	1.7	-12.4	31	3.2
700	30	3,065	-2.3	-15.1	29	3.6
650	30	3,649	-6.4	-18.6	28	4.2
600	30	4,270	-10.7	-21.4	26	4.9
550	30	4,933	-15.6	-25.8	26	6.4
500	30	5,645	-20.8	-31.8	27	7.1
450	30	6,415	-26.4	-37.0	27	7.5
400	29	7,260	-32.2	-41.8	27	7.2
350	29	8,191	-39.2	-46.1	27	9.4
300	29	9,227	-47.1		27	10.0
250	29	10,413	-55.0		27	12.0
200	29	11,817	-60.5		27	12.3
175	29	12,650	-59.6		27	10.7
150	29	13,619	-58.2		27	10.1
125	29	14,767	-58.2		26	8.8
100	27	16,173	-58.7		27	7.2
80	27	17,578	-58.0		26	5.1
70	27	18,419	-58.0		27	4.6
60	27	19,390	-58.5		29	4.0
50	27	20,536	-58.8		31	3.1
40	25	21,935	-58.1		32	2.0
30	24	23,752	-57.5		32	2.0
25	24	24,907	-56.4		31	2.6
20	21	26,334	-54.5		32	2.5
15	20	28,183	-52.1		27	3.4
10	12	30,884	-45.9			
7						

BOOTHVILLE, LA
1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1	18.2	16.2	12	1.2
1000	30	160	19.4	13.5	13	2.2
950	30	601	16.8	9.1	15	3.0
900	30	1,060	14.1	4.3	16	3.0
850	30	1,539	10.9	.3	17	2.3
800	30	2,043	8.7	-5.8	20	2.0
750	30	2,574	6.0	-10.7	23	3.8
700	30	3,136	2.8	-13.9	24	4.3
650	30	3,732	-.1	-17.8	25	5.3
600	30	4,369	-3.7	-21.8	24	7.2
550	30	5,050	-8.3	-24.6	25	8.6
500	30	5,783	-13.4	-30.8	25	9.8
450	30	6,576	-18.8	-35.1	26	11.2
400	30	7,443	-25.2	-39.5	26	13.3
350	30	8,401	-32.5	-44.7	26	15.8
300	30	9,466	-40.9	-48.0	26	19.2
250	30	10,682	-50.0		27	22.5
200	30	12,113	-57.7		27	26.5
175	30	12,951	-60.0		27	26.4
150	30	13,911	-61.4		26	24.0
125	30	15,037	-63.5		27	21.2
100	30	16,397	-66.5		26	16.2
80	29	17,744	-66.8		27	11.2
70	29	18,553	-65.6		27	7.7
60	29	19,496	-63.2		27	4.3
50	29	20,627	-59.7		30	2.5
40	28	22,030	-56.5		33	1.4
30	28	23,873	-52.5		01	2.1
25	28	25,057	-50.7		31	2.3
20	26	26,520	-49.2		27	4.1
15	25	28,420	-45.3		25	6.6
10	23	31,158	-40.3		26	12.8
7	9	33,611	-35.8			

* BROWNSVILLE, TX
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	7	19.0	17.4	16	1.8
1000	30	134	20.7	16.1	15	4.1
950	30	577	18.4	12.3	16	6.9
900	30	1,039	16.3	6.8	17	6.8
850	30	1,524	14.1	2.5	18	5.7
800	30	2,034	11.2	-1.6	20	5.0
750	30	2,570	8.6	-6.1	23	4.4
700	30	3,138	5.9	-9.4	25	5.3
650	30	3,741	2.4	-12.0	27	5.7
600	30	4,383	-2.0	-16.2	27	8.0
550	30	5,068	-6.7	-22.0	27	9.2
500	30	5,806	-11.8	-27.2	26	10.4
450	30	6,605	-16.9	-31.8	26	13.3
400	30	7,478	-23.1	-36.8	26	17.6
350	29	8,443	-30.7	-43.4	26	20.7
300	29	9,515	-39.7	-50.0	26	24.3
250	29	10,735	-49.4		26	29.4
200	29	12,166	-58.5		27	33.4
175	29	13,001	-60.5		26	32.6
150	29	13,957	-62.9		26	29.9
125	29	15,070	-66.0		26	25.2
100	29	16,409	-70.4		26	18.1
80	29	17,731	-71.4		25	10.3
70	29	18,574	-68.7		25	6.2
60	29	19,454	-65.7		25	2.3
50	29	20,574	-61.3		07	.6
40	29	21,972	-57.3		05	2.5
30	27	23,814	-52.5		08	4.8
25	27	24,997	-51.0		09	3.9
20	27	26,455	-49.1		09	2.8
15	24	28,362	-44.8		29	3.5
10	20	31,106	-38.9		26	6.7
7	6	33,591	-35.9			

BUFFALO, NY
992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	218	4.6	.1	23	2.1
1000						
950	30	569	6.0	-1.8	27	4.6
900	30	1,011	3.8	-3.6	28	5.9
850	30	1,473	1.8	-6.3	29	7.0
800	30	1,959	-.8	-9.4	29	8.2
750	30	2,473	-3.1	-12.1	29	10.0
700	30	3,016	-5.9	-16.0	29	11.6
650	30	3,594	-8.9	-19.8	29	13.3
600	30	4,210	-12.3	-22.5	29	15.1
550	30	4,870	-16.4	-27.3	29	17.6
500	30	5,580	-21.0	-33.0	28	18.4
450	30	6,351	-26.2	-35.9	28	19.2
400	30	7,193	-32.1	-41.0	28	20.5
350	30	8,126	-38.6	-44.8	28	20.9
300	30	9,166	-45.9		29	21.4
250	30	10,361	-52.8		28	22.6
200	30	11,785	-56.8		29	22.5
175	30	12,631	-57.2		29	21.9
150	30	13,607	-56.6		29	19.0
125	30	14,765	-56.7		29	16.9
100	30	16,179	-56.8		29	14.5
80	30	17,590	-57.8		28	10.4
70	29	18,433	-57.7		28	7.9
60	29	19,406	-57.5		28	5.9
50	29	20,561	-56.4		28	4.1
40	28	21,979	-55.9		26	1.7
30	28	23,812	-55.0		24	1.2
25	28	24,981	-54.0		25	1.4
20	27	26,416	-52.9		27	2.1
15	25	28,289	-50.1		27	3.4
10	15	30,970	-44.7		28	5.5
7						

CAPE HATTERAS, NC
1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	4	14.4	11.4	27	1.3
1000	30	171	15.9	9.1	25	3.1
950	30	606	13.8	5.5	25	5.4
900	30	1,060	11.6	2.2	26	6.3
850	30	1,536	8.7	-1.0	27	7.1
800	30	2,035	5.7	-4.6	28	7.9
750	30	2,560	2.7	-6.9	27	9.8
700	30	3,115	-.3	-13.0	27	10.8
650	30	3,706	-3.1	-18.4	27	12.2
600	30	4,335	-6.6	-22.5	27	13.0
550	30	5,009	-10.7	-27.7	27	15.5
500	30	5,735	-15.7	-32.0	27	16.9
450	30	6,521	-21.3	-35.8	27	18.9
400	30	7,380	-27.6	-40.9	28	17.9
350	30	8,329	-34.8	-46.3	28	19.7
300	29	9,388	-42.7	-48.8	28	21.1
250	29	10,594	-51.7		28	23.5
200	29	12,015	-58.9		28	25.8
175	29	12,849	-60.6		28	24.9
150	28	13,805	-59.8		28	21.5
125	27	14,947	-61.2		28	18.3
100	26	16,319	-62.7		28	15.2
80	26	17,692	-63.2		28	10.1
70	26	18,515	-62.2		28	8.2
60	24	19,468	-60.8		28	5.5
50	24	20,611	-58.0		28	3.8
40	24	22,022	-56.5		29	1.7
30	23	23,854	-54.8		28	1.5
25	21	25,023	-53.2		28	2.4
20	21	26,467	-51.2		27	4.2
15	19	28,350	-48.8		27	6.0
10	16	31,051	-43.6		28	12.3
7						

RAWINSONDE DATA

Average monthly values

APRIL 1977

• CARIBOU, ME
992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	191	-1.2	-8.6	30	2.1
1000	6	210	.1	-8.9		
950	30	533	-1.5	-8.5	30	4.0
900	30	903	-3.2	-9.9	31	5.2
850	30	1,414	-4.7	-12.3	31	6.4
800	30	1,8 9	-6.5	-14.4	[illegible]	7.1
750	30	2,392	-8.6	-17.2	30	[illegible].4
700	30	2,925	-10.5	-18.2	29	10.5
650	30	3,443	-13.2	-21.8	29	12.[illegible]
600	30	4,[illegible]29	-15.[illegible]	-24.6	29	14.0
550	30	4,749	-20.2	-28.7	29	15.[illegible]
500	30	5,449	-25.1	-33.4	29	17.2
450	29	6,216	-29.8	-38.4	29	18.5
400	29	7,047	-34.8	-42.7	2[illegible]	22.2
350	29	7,971	-40.3	-43.3	2[illegible]	23.2
300	29	9,[illegible]7	-46.0		2[illegible]	25.4
250	29	10,206	-50.9		29	24.2
200	27	11,658	-52.7		27	22.[illegible]
175	27	12,520	-52.5		27	21.1
150	26	13,510	-52.2		27	16.[illegible]
125	28	14,6[illegible]0	-52.5		27	1[illegible].[illegible]
100	23	16,130	-53.8		27	10.5
80	21	17,563	-54.2		28	6.2
70	21	18,416	-54.8		27	5.5
60	20	19,376	-54.8		27	3.6
50	20	20,564	-54.6		23	2.7
40	19	21,9[illegible]0	-54.6		26	1.2
30	18	23,836	-54.4		07	.[illegible]
25	18	24,998	-53.8		07	1.4
20	14	26,441	-52.5		3[illegible]	.4
15	12	28,313	-49.0		32	1.6
10	6	31,013	-42.9			
7						

CENTREVILLE, AL
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	160	12.8	10.0	07	.0
1000	24	183	15.4	8.1	20	.7
950	30	603	16.1	9.2	21	3.2
900	30	1,061	13.2	3.6	22	4.0
850	30	1,539	9.8	1.3	22	3.3
800	30	2,040	6.7	-3.2	21	2.3
750	30	2,567	4.6	-8.2	23	2.8
700	30	3,124	.1	-12.4	23	4.0
650	30	3,714	-3.0	-16.9	24	5.4
600	30	4,344	-6.3	-20.8	26	6.2
550	30	5,020	-10.6	-24.6	25	9.[illegible]
500	30	5,746	-15.8	-29.2	25	10.4
450	30	6,532	-21.1	-34.1	25	12.2
400	30	7,391	-27.5	-40.2	26	11.5
350	30	8,340	-34.9	-45.8	27	12.7
300	30	9,394	-43.0	-47.3	27	14.9
250	30	10,600	-51.8		27	17.9
200	30	12,021	-58.9		27	22.[illegible]
175	30	12,855	-60.7		27	23.1
150	30	13,815	-60.7		27	21.8
125	30	14,947	-62.3		27	19.7
100	30	16,316	-64.9		27	16.0
80	29	17,678	-65.3		27	9.[illegible]
70	29	18,493	-64.6		27	6.9
60	29	19,438	-62.9		26	4.[illegible]
50	29	20,569	-59.7		27	3.8
40	29	21,973	-57.0		30	2.5
30	29	23,808	-54.2		29	3.2
25	28	24,979	-52.9		28	4.3
20	28	26,626	-50.7		26	6.8
15	27	28,310	-47.7		26	8.5
10	23	31,012	-42.2		26	13.8
7	11	33,468	-38.0			

CHARLESTON, SC
1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	13	13.5	11.4	23	.9
1000	30	174	16.7	11.3	23	2.2
950	30	612	15.8	[illegible].6	25	[illegible].7
900	30	1,069	13.4	[illegible].0	26	4.[illegible]
850	30	1,548	10.3	-.3	28	4.6
800	30	2,050	7.4	-4.0	28	4.8
750	30	2,579	4.4	-8.2	27	4.7
700	30	3,137	.8	-13.0	27	5.[illegible]
650	30	3,729	-2.5	-17.3	27	6.9
600	30	4,360	-5.5	-22.1	27	[illegible].6
550	30	5,038	-9.7	-25.8	26	10.6
500	30	5,766	-14.6	-31.7	26	12.3
450	30	6,556	-20.3	-36.0	26	13.0
400	30	7,417	-26.6	-41.3	26	13.[illegible]
350	30	8,370	-34.0	-46.7	26	14.[illegible]
300	30	9,428	-42.3	-50.0	27	16.1
250	30	10,637	-51.2		27	19.1
200	30	12,061	-58.5		27	22.1
175	30	12,897	-60.2		27	23.8
150	30	13,856	-61.3		27	22.8
125	30	14,987	-62.1		27	20.2
100	30	16,356	-65.0		27	16.3
80	29	17,715	-64.6		27	11.[illegible]
70	29	18,532	-63.9		27	8.3
60	28	19,477	-62.2		27	5.0
50	28	20,612	-59.2		26	4.1
40	27	22,021	-56.4		30	[illegible].2
30	27	23,860	-53.5		28	[illegible]
25	24	25,040	-51.8		29	3.3
20	22	26,499	-49.4		28	5.7
15	20	28,401	-46.7		27	[illegible].6
10	13	31,123	-40.9		26	14.[illegible]
7						

CHATHAM, MA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	16	5.8	1.8	26	1.6
1000	30	139	[illegible].3	-.[illegible]	28	3.3
950	30	560	6.0	-2.9	29	6.1
900	30	1,002	4.3	-5.[illegible]	28	7.5
850	30	1,466	[illegible].0	-7.6	28	10.0
800	30	1,953	.0	-10.9	28	11.4
750	30	[illegible],468	-2.6	-14.5	28	12.8
700	30	3,013	-5.5	-17.4	28	14.5
650	30	3,591	-8.7	-21.0	28	16.2
600	30	4,207	-12.1	-25.1	28	17.4
550	30	4,867	-16.3	-29.2	28	19.1
500	30	5,578	-20.9	-34.0	27	19.9
450	30	6,349	-26.1	-38.2	27	21.5
400	30	7,191	-31.9	-42.4	27	23.9
350	30	8,125	-38.4	-46.4	27	25.6
300	30	9,166	-45.5	-47.9	27	27.0
250	30	10,364	-51.9		28	28.1
200	30	11,795	-56.1		28	27.3
175	30	12,644	-56.2		28	25.5
150	30	13,623	-56.1		27	21.8
125	30	14,781	-56.9		27	18.4
100	30	16,189	-57.6		27	14.2
80	28	17,596	-57.8		27	8.6
70	28	18,438	-57.7		28	7.1
60	28	19,412	-57.3		28	5.2
50	26	20,560	-56.7		27	3.9
40	24	21,972	-55.7		26	3.1
30	24	23,807	-55.1		27	1.6
25	24	24,974	-54.2		27	2.4
20	24	26,411	-52.8		29	2.6
15	19	28,282	-50.0		29	3.9
10	14	30,970	-44.5		26	8.4
7						

CHIHUAHUA, MEXICO
858 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,428	10.7	-1.8	23	1.4
1000						
950						
900						
850	30	1,501	13.1	-3.7	23	1.6
800	30	2,010	11.8	-5.1	23	2.5
750	30	2,546	7.9	-7.3	23	4.1
700	30	[illegible],111	4.0	-9.6	24	5.5
650	30	3,709	.0	-12.[illegible]	24	6.2
600	[illegible]	4,345	-4.5	-17.3	23	7.5
550	30	5,024	-9.3	-24.1	24	9.9
500	30	[illegible],753	-14.7	-30.4	25	13.0
450	30	6,542	-20.5	-36.1	25	14.8
400	30	7,403	-26.6	-40.3	25	17.4
350	[illegible]	8,357	-33.7	-46.[illegible]	25	19.2
300	30	9,417	-41.6	-48.5	26	22.0
250	30	10,630	-50.1		26	26.5
200	30	12,062	-57.6		27	27.5
175	[illegible]	12,901	-59.3		27	25.5
150	30	13,864	-60.6		27	23.1
125	30	14,991	-63.7		26	22.0
100	29	16,353	-65.4		26	16.7
80	29	17,708	-66.0		26	9.6
70	28	18,517	-65.8		27	4.7
60	27	19,460	-63.7		27	2.4
50	27	20,587	-60.6		31	1.3
40	26	21,986	-57.4		32	1.2
30	26	23,820	-53.9		26	1.6
25	26	24,995	-52.5		26	3.8
20	25	26,448	-50.3		27	6.8
15	23	28,341	-47.0		27	8.0
10	9	31,054	-41.3			
7						

• COLD BAY, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	30	-1.3	-3.7	30	2.9
1000	18	129	-2.1	-5.1	30	3.0
950	29	480	-3.9	-6.5	29	5.6
900	29	905	-6.6	-10.8	29	6.6
850	29	1,351	-8.5	-14.6	29	6.6
800	29	1,820	-10.5	-18.3	29	7.3
750	29	2,316	-12.5	-20.8	29	7.6
700	29	2,841	-14.9	-24.0	27	7.2
650	29	3,400	-17.3	-27.1	27	8.1
600	29	3,976	-20.7	-31.5	27	9.2
550	29	4,635	-24.6	-36.5	26	10.3
500	29	5,322	-29.2	-39.2	26	11.1
450	28	6,063	-34.3	-43.1	25	11.7
400	28	6,878	-39.7	-44.6	24	12.6
350	28	7,793	-45.5		25	14.9
300	28	8,795	-50.5		26	15.3
250	27	9,979	-52.5		26	16.1
200	27	11,424	-51.1		26	13.4
175	27	12,294	-50.8		26	11.6
150	27	13,297	-51.0		25	11.6
125	28	14,474	-51.1		25	9.3
100	25	15,924	-51.4		25	7.5
80	23	17,397	-52.0		25	5.2
70	22	18,251	-52.3		24	4.2
60	21	19,253	-52.9		23	3.9
50	20	20,423	-52.4		21	2.6
40	19	21,869	-53.0		19	2.3
30	17	23,728	-53.1		15	1.5
25	16	24,896	-53.4		15	1.[illegible]
20	16	26,335	-53.5		04	1.4
15	10	28,198	-52.5			
10						
7						

DAYTON, OH
984 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	23	299	8.9	4.2	21	1.9
1000						
950	23	594	11.[illegible]	2.6	23	5.2
900	23	1,044	9.1	1.3	25	7.7
850	23	1,516	6.[illegible]	-2.9	27	9.0
800	23	2,012	4.2	-5.3	27	9.[illegible]
750	23	2,534	.9	-8.4	27	10.3
700	23	3,085	-2.9	-12.0	27	11.1
650	23	3,669	-6.2	-15.3	27	13.0
600	23	4,291	-10.2	-18.5	27	14.4
550	23	4,957	-14.1	-25.1	27	16.0
500	23	5,673	-18.7	-30.6	27	17.6
450	23	6,452	-23.6	-33.9	27	19.5
400	22	7,299	-29.9	-40.8	27	21.4
350	21	8,245	-36.1	-46.8	27	24.0
300	21	9,295	-43.9		27	26.[illegible]
250	17	10,563	-53.1		27	23.[illegible]
200	15	12,001	-63.1		28	20.7
175	13	12,828	-65.7		29	16.3
150	13	13,769	-63.6		28	12.[illegible]
125	13	14,898	-60.6		29	11.1
100	13	16,283	-61.8		29	8.3
80	12	17,670	-62.7		31	5.7
70	12	18,493	-62.7		32	4.3
60	11	19,448	-61.9		33	3.1
50	11	20,580	-60.4		03	1.7
40	11	21,979	-58.1		05	1.6
30	11	23,800	-56.4		08	.6
25	11	24,963	-54.6		01	.3
20	10	26,400	-52.1		29	1.7
15	10	28,269	-50.1		26	3.8
10	9	30,943	-45.0			
7						

DEL RIO, TX
979 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	314	15.7	12.1	11	2.9
1000						
950	30	569	16.0	10.8	14	[illegible]
900	30	1,028	14.5	6.7	16	7.3
850	30	1,510	12.3	[illegible].7	17	5.[illegible]
800	30	2,017	10.2	-1.8	20	4.[illegible]
750	30	2,551	7.7	-6.[illegible]	24	4.2
700	30	3,116	3.9	-11.3	26	5.4
650	30	3,714	.2	-15.[illegible]	26	7.4
600	30	4,350	-4.6	-18.8	26	9.2
550	30	5,029	-9.2	-23.1	26	10.7
500	30	5,759	-14.1	-28.2	26	12.[illegible]
450	30	6,550	-19.9	-32.7	25	13.4
400	30	7,413	-26.4	-37.4	25	15.5
350	30	8,366	-33.6	-44.[illegible]	25	17.9
300	30	9,427	-41.8	-50.[illegible]	25	19.[illegible]
250	30	10,637	-51.2		25	22.0
200	29	12,060	-59.2		26	25.9
175	29	12,894	-60.2		27	25.5
150	29	13,854	-61.3		27	22.2
125	29	14,977	-64.3		27	21.2
100	29	16,335	-66.9		27	16.2
80	29	17,679	-67.6		27	10.8
70	29	18,485	-66.1		27	[illegible].8
60	29	19,424	-64.0		27	3.9
50	29	20,547	-61.3		28	2.3
40	29	21,943	-57.9		31	1.8
30	29	23,772	-54.5		29	2.9
25	28	24,947	-52.8		27	3.[illegible]
20	28	26,395	-50.7		27	4.[illegible]
15	27	28,280	-48.3		27	[illegible].0
10	23	30,981	-41.8		27	14.1
7	10	33,366	-38.4			

DENVER, CO
837 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	1,611	5.2	-.7	25	1.1
1000						
950						
900						
850						
800	29	1,987	6.1	-3.4	30	2.3
750	29	2,514	[illegible].8	-6.5	31	2.2
700	29	3,071	-.1	-10.0	30	3.2
650	29	3,660	-4.4	-13.0	30	4.4
600	29	4,285	-9.2	-17.7	30	4.7
550	29	4,952	-13.7	-23.7	29	5.5
500	29	[illegible],669	-19.1	-30.1	28	6.5
450	29	6,445	-24.[illegible]	-36.3	28	6.8
400	29	7,290	-31.7	-41.6	27	7.2
350	29	8,222	-39.1	-48.2	27	6.8
300	29	9,258	-47.2		25	8.1
250	29	10,445	-54.[illegible]		24	11.2
200	29	11,851	-60.[illegible]		25	13.3
175	29	12,684	-59.[illegible]		26	12.2
150	29	13,652	-58.3		27	12.4
125	29	14,798	-59.2		27	10.3
100	29	16,195	-59.7		26	9.2
80	29	17,589	-60.3		26	6.7
70	29	18,421	-60.[illegible]		27	5.4
60	28	19,382	-60.2		27	4.6
50	27	20,525	-59.1		28	3.9
40	26	21,925	-58.8		29	3.6
30	25	23,740	-56.8		29	2.7
25	25	24,899	-55.3		27	3.1
20	25	26,330	-53.5		27	4.3
15	24	28,194	-50.[illegible]		27	5.2
10	21	30,890	-44.5		27	9.4
7	8	33,309	-40.4			

DODGE CITY, KS
925 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	791	9.3	4.[illegible]	20	.7
1000						
950						
900	30	1,015	10.7	3.[illegible]	25	2.7
850	30	1,491	9.3	[illegible]	24	4.3
800	30	1,992	7.2	-2.[illegible]	25	4.6
750	30	2,520	3.9	-5.7	26	4.8
700	30	3,077	.2	-9.5	27	4.8
650	30	3,667	-3.7	-14.7	27	5.0
600	30	4,294	-8.1	-19.3	27	4.8
550	30	4,964	-13.0	-23.2	27	5.2
500	30	[illegible],683	-18.4	-29.7	27	6.0
450	30	6,461	-23.8	-35.9	26	7.1
400	30	7,311	-30.3	-40.[illegible]	25	8.5
350	[illegible]	[illegible],249	-37.5	-46.[illegible]	25	9.5
300	30	9,293	-45.7		25	11.8
250	30	10,486	-53.9		24	15.1
200	30	11,894	-60.3		25	17.8
175	30	12,726	-59.8		26	16.5
150	30	13,693	-58.7		26	15.3
125	30	14,836	-59.6		26	13.4
100	[illegible]	16,227	-60.9		26	11.0
80	29	17,610	-61.9		26	9.1
70	29	18,437	-61.6		26	7.6
60	29	19,396	-61.3		28	4.9
50	28	20,527	-59.5		28	3.8
40	27	21,931	-58.1		[illegible]	3.2
30	27	23,751	-56.0		28	3.5
25	27	24,915	-54.6		27	3.7
20	26	26,352	-53.0		26	5.7
15	25	28,215	-50.0		26	7.8
10	18	30,900	-44.6		27	10.5
7						

EL PASO, TX
881 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,193	11.8	-1.6	26	1.0
1000						
950						
900						
850	30	1,496	13.3	-3.2	25	1.4
800	30	2,004	10.4	-5.9	24	3.0
750	30	2,537	6.4	-8.1	24	4.5
700	30	3,098	1.9	-10.5	24	5.3
650	30	3,691	-2.5	-13.9	24	6.4
600	30	4,321	-7.3	-17.7	24	7.2
550	30	4,993	-12.2	-22.9	24	9.0
500	30	5,715	-17.2	-30.3	25	11.1
450	30	6,497	-22.7	-37.1	25	10.[illegible]
400	29	7,345	-29.6	-41.7	2[illegible]	12.4
350	29	8,237	-36.5	-48.0	25	14.0
300	29	9,335	-44.5		26	14.6
250	29	10,536	-52.3		26	16.1
200	29	11,960	-58.2		26	21.3
175	29	12,797	-59.4		27	20.8
150	29	13,744	-59.0		26	20.3
125	29	14,902	-61.6		27	1[illegible].[illegible]
100	29	16,276	-64.1		27	14.4
80	28	17,643	-64.6		27	9.1
70	27	18,462	-63.4		26	6.2
60	27	19,411	-62.7		27	4.2
50	27	20,539	-60.7		29	2.[illegible]
40	26	21,936	-58.0		30	3.2
30	25	23,764	-55.0		27	4.2
25	25	24,932	-53.7		2[illegible]	5.0
20	25	26,373	-51.9		27	7.7
15	24	28,259	-48.0		27	10.7
10	19	30,949	-42.8		27	13.0
7	10	33,359	-39.2			

ELY, NV
809 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,908	.4	-12.6	21	2.2
1000						
950						
900						
850						
800	28	2,006	5.0	-9.2	20	2.[illegible]
750	30	2,525	3.9	-10.8	18	.3
700	30	3,081	-.3	-13.6	29	1.8
650	30	3,670	-4.2	-17.2	27	2.7
600	30	4,296	-8.6	-20.9	28	3.[illegible]
550	30	4,964	-13.5	-25.6	27	4.0
500	30	5,682	-18.9	-31.0	26	5.3
450	30	6,457	-24.8	-34.3	27	6.4
400	30	7,303	-31.2	-40.9	27	7.9
350	30	8,238	-38.3	-44.8	28	6.4
300	30	9,278	-46.2		28	8.5
250	30	10,468	-54.2		28	11.[illegible]
200	30	11,876	-60.1		28	12.8
175	30	12,710	-60.0		27	12.2
150	30	13,675	-58.8		27	11.[illegible]
125	30	14,819	-59.4		26	10.0
100	30	16,213	-59.9		26	8.[illegible]
80	30	17,609	-59.3		26	6.6
70	30	18,446	-58.8		26	5.3
60	30	19,417	-59.7		27	4.5
50	30	20,553	-59.3		28	3.2
40	30	21,954	-58.5		30	2.4
30	29	23,770	-57.0		30	3.1
25	28	24,927	-55.9		30	3.4
20	25	26,355	-54.0		29	4.8
15	18	28,210	-51.3		29	6.5
10	12	30,865	-46.1			
7						

EMPALME, MEXICO
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	12	15.5	7.3	36	1.0
1000	30	107	19.4	7.8	35	1.3
950	30	549	19.9	2.8	34	1.8
900	30	1,013	17.5	-.7	34	1.3
850	30	1,498	14.4	-4.[illegible]	22	1.2
800	30	2,007	11.3	-6.9	21	3.0
750	30	2,542	7.8	-10.4	22	4.[illegible]
700	30	3,107	4.7	-14.9	24	5.6
650	30	3,707	1.1	-18.5	25	7.0
600	30	4,345	-3.1	-22.2	26	8.0
550	30	5,028	-7.9	-26.1	26	9.2
500	30	5,761	-13.4	-30.1	27	11.8
450	30	6,554	-19.3	-34.[illegible]	27	14.2
400	30	7,418	-25.9	-39.6	27	17.1
350	30	8,374	-32.9	-46.[illegible]	27	19.8
300	30	9,437	-41.2	-48.[illegible]	27	24.8
250	30	10,652	-49.8		26	31.[illegible]
200	30	12,085	-57.2		27	31.9
175	30	12,926	-58.8		27	30.6
150	30	13,893	-59.8		27	28.0
125	30	15,025	-62.5		27	23.8
100	30	16,391	-65.7		26	17.8
80	30	17,744	-65.9		26	10.3
70	29	18,557	-65.0		26	7.2
60	29	19,502	-63.0		26	2.8
50	28	20,629	-60.1		28	1.[illegible]
40	27	22,033	-57.0		01	1.3
30	27	23,869	-54.1		02	.8
25	25	25,047	-52.4		25	1.8
20	25	26,497	-50.2		27	[illegible].6
15	19	28,380	-46.7		27	9.4
10						
7						

• FAIRBANKS, AK
993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	135	-4.6	-10.2	33	.7
1000						
950	30	481	-3.8	-10.6	11	1.3
900	30	907	-5.[illegible]	-12.[illegible]	17	2.0
850	30	1,359	-7.[illegible]	-14.2	20	3.4
800	30	1,823	-10.5	-16.0	21	5.6
750	30	2,317	-13.5	-19.0	20	6.5
700	30	2,838	-16.6	-21.5	21	6.6
650	30	3,392	-19.[illegible]	-24.8	21	7.6
600	30	3,982	-23.5	-28.5	22	9.1
550	30	4,619	-27.2	-33.2	22	9.5
500	30	5,293	-31.8	-38.5	22	10.6
450	30	6,031	-36.5	-40.7	23	12.3
400	30	6,838	-42.1	-44.0	23	14.6
350	29	7,734	-48.0		23	16.5
300	28	8,741	-53.0		23	19.1
250	28	9,911	-53.9		24	17.7
200	27	11,359	-50.0		24	14.0
175	27	12,233	-49.6		24	12.6
150	26	13,239	-49.5		23	11.4
125	25	14,442	-49.6		23	11.0
100	25	15,907	-48.6		23	8.9
80	25	17,371	-49.4		23	7.6
70	25	18,246	-49.6		22	5.1
60	25	19,254	-50.2		22	5.2
50	25	20,444	-50.8		20	3.3
40	24	21,889	-51.5		18	2.8
30	23	23,751	-52.[illegible]		12	2.6
25	23	24,931	-52.3		11	4.4
20	20	26,374	-51.9		10	7.2
15	17	28,231	-50.1		10	9.7
10	10	30,902	-46.2			
7						

FLINT, MI
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	236	5.1	-.4	21	.9
1000						
950	[illegible]	567	7.2	-1.[illegible]	26	3.1
900	30	1,011	5.6	-3.4	27	4.7
850	30	1,477	3.6	-6.8	29	6.8
800	30	1,967	1.3	-8.5	29	8.5
750	30	2,485	-1.5	-10.[illegible]	29	10.1
700	30	3,031	-4.9	-13.[illegible]	29	10.6
650	30	3,611	-8.3	-16.9	28	11.3
600	[illegible]	4,228	-11.9	-20.6	28	12.8
550	30	4,889	-16.3	-25.7	28	14.0
500	30	5,599	-21.2	-30.7	28	15.1
450	30	6,369	-26.4	-36.0	28	17.0
400	30	7,210	-32.3	-41.6	28	18.8
350	30	8,142	-38.7	-46.[illegible]	28	20.0
300	[illegible]	9,182	-45.9		28	22.2
250	30	10,376	-52.9		28	25.1
200	30	11,797	-57.8		28	23.8
175	30	12,639	-58.1		28	22.0
150	30	13,612	-57.1		[illegible]	18.3
125	30	14,768	-56.6		28	15.6
100	30	16,182	-57.4		28	12.5
80	30	17,590	-58.1		[illegible]	8.4
70	30	18,431	-58.3		28	5.7
60	30	19,402	-57.9		27	3.8
50	30	20,554	-57.1		27	3.0
40	30	21,969	-56.4		26	1.7
30	29	23,799	-55.3		24	.6
25	29	24,966	-54.3		23	1.5
20	29	26,400	-53.2		24	1.6
15	25	28,258	-50.8		26	3.8
10	13	30,946	-45.8		28	3.1
7						

RAWINSONDE DATA

Average monthly values

APRIL 1977

GLASGOW, MT — 935 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	696	2.6	-5.3	06	1.0
1000						
950						
900	30	1,010	8.2	-5.2	27	2.8
850	30	1,480	5.8	-8.3	29	5.1
800	30	1,973	2.6	-11.3	31	6.2
750	30	2,491	-1.3	-13.9	31	6.5
700	30	3,037	-5.2	-16.5	30	6.8
650	30	3,615	-8.8	-19.4	30	8.7
600	30	4,231	-12.7	-24.1	29	10.3
550	30	4,890	-16.9	-28.6	29	11.6
500	30	5,598	-21.9	-33.8	29	12.7
450	30	6,365	-27.4	-38.1	28	13.0
400	30	7,202	-33.9	-42.8	27	14.3
350	30	8,126	-41.0	-47.4	27	15.0
300	30	9,154	-48.5		27	16.9
250	30	10,335	-55.9		27	18.2
200	30	11,738	-59.4		27	16.0
175	30	12,577	-58.0		27	13.8
150	30	13,552	-56.7		27	11.9
125	30	14,708	-56.4		28	10.7
100	30	16,124	-56.8		27	8.1
80	30	17,538	-57.0		27	6.1
70	30	18,384	-56.8		28	5.2
60	30	19,359	-57.7		29	3.2
50	29	20,510	-57.7		30	2.5
40	28	21,924	-57.2		32	1.3
30	28	23,747	-56.4		02	.8
25	28	24,908	-55.4		01	.9
20	27	26,344	-54.1		05	1.3
15	26	28,236	-51.8		07	.8
10	20	30,864	-46.5		29	1.2
7	6	33,390	-39.9			

GRAND JUNCTION, CO — 852 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,472	7.5	-5.0	12	2.1
1000						
950						
900						
850	19	1,520	9.6	-3.7	12	3.2
800	30	1,990	7.8	-5.3	14	2.7
750	30	2,518	4.4	-7.4	16	.9
700	30	3,076	.5	-10.0	27	1.0
650	30	3,666	-3.9	-12.8	26	2.1
600	30	4,293	-8.6	-16.7	25	3.6
550	30	4,961	-13.7	-20.9	25	4.0
500	30	5,678	-19.3	-27.1	24	5.4
450	29	6,450	-24.8	-35.3	24	6.9
400	29	7,296	-31.5	-40.7	25	7.2
350	29	8,229	-39.1	-46.5	25	8.1
300	29	9,265	-46.9		24	7.6
250	29	10,454	-54.0		25	8.8
200	29	11,865	-59.4		26	11.2
175	29	12,703	-58.2		26	11.0
150	29	13,673	-58.2		26	11.3
125	27	14,826	-59.3		26	11.1
100	27	16,223	-60.0		26	9.9
80	27	17,615	-60.0		26	7.3
70	27	18,450	-59.8		26	5.4
60	27	19,413	-60.0		27	4.6
50	27	20,552	-59.8		28	3.3
40	27	21,950	-58.6		29	2.8
30	26	23,769	-56.8		29	3.0
25	24	24,931	-55.1		28	3.0
20	23	26,358	-53.1		28	4.4
15	18	28,223	-50.4		28	5.3
10	10	30,885	-45.4			
7						

• GREAT FALLS, MT — 889 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,118	2.8	-5.1	23	3.1
1000						
950						
900						
850	30	1,488	6.2	-7.1	25	4.6
800	30	1,982	3.0	-9.6	27	4.2
750	30	2,502	-.6	-12.4	28	5.0
700	30	3,049	-4.6	-15.4	28	5.9
650	30	3,628	-8.4	-18.7	28	6.7
600	30	4,244	-12.6	-22.7	27	7.8
550	30	4,903	-17.3	-27.6	27	8.9
500	30	5,610	-22.3	-31.9	26	9.5
450	30	6,376	-27.7	-37.3	26	10.4
400	30	7,212	-34.2	-40.9	27	11.2
350	30	8,135	-41.2	-48.3	26	11.7
300	30	9,164	-48.4		27	12.6
250	30	10,345	-55.6		27	13.4
200	30	11,752	-59.3		27	11.5
175	30	12,589	-58.8		27	12.2
150	30	13,563	-57.1		27	11.2
125	30	14,718	-57.2		27	9.1
100	30	16,127	-57.7		27	7.4
80	30	17,540	-56.7		28	5.4
70	30	18,386	-57.1		28	4.3
60	30	19,361	-57.3		28	3.9
50	30	20,513	-57.7		29	2.9
40	29	21,927	-57.5		33	1.8
30	29	23,746	-56.9		36	1.8
25	27	24,912	-55.6		36	2.0
20	25	26,352	-54.1		02	.9
15	24	28,217	-51.8		04	.5
10	17	30,891	-45.9		03	1.2
7	5	33,337	-39.7			

GREEN BAY, WI — 991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	210	4.2	.2	34	.3
1000						
950	30	555	6.9	-1.4	26	2.3
900	30	999	5.8	-4.6	28	4.0
850	30	1,465	3.7	-7.3	29	4.5
800	30	1,956	1.0	-8.3	29	6.0
750	30	2,472	-2.1	-10.7	29	7.9
700	30	3,017	-5.6	-13.9	29	9.1
650	30	3,595	-8.9	-17.5	29	10.1
600	30	4,211	-12.4	-22.2	29	11.2
550	30	4,871	-16.5	-27.0	29	12.0
500	30	5,581	-21.2	-31.8	28	13.5
450	30	6,351	-26.5	-36.0	29	15.2
400	30	7,191	-32.8	-39.8	29	16.4
350	30	8,119	-40.0	-44.9	29	17.2
300	30	9,153	-47.1		28	19.1
250	30	10,344	-53.0		28	22.2
200	30	11,764	-57.7		28	22.1
175	30	12,605	-58.0		28	20.8
150	30	13,580	-56.5		28	17.3
125	30	14,738	-56.3		28	14.8
100	30	16,154	-56.8		28	12.2
80	29	17,568	-57.5		28	8.0
70	29	18,411	-57.7		28	6.6
60	29	19,384	-57.5		29	3.8
50	29	20,537	-57.0		27	2.7
40	29	21,953	-56.3		26	1.7
30	28	23,789	-54.9		22	.7
25	26	24,953	-54.4		19	.6
20	25	26,387	-53.2		22	1.0
15	24	28,246	-51.0		25	2.0
10	19	30,922	-45.7		26	5.6
7						

GREENSBORO, NC — 987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	275	10.4	6.5	21	.9
1000						
950	30	599	13.7	4.1	26	2.1
900	30	1,054	11.6	1.5	28	4.8
850	30	1,529	8.8	-1.9	28	7.4
800	30	2,028	5.6	-3.3	28	8.4
750	30	2,553	2.1	-5.4	28	9.6
700	30	3,107	-1.0	-11.3	28	10.5
650	30	3,695	-4.3	-16.5	28	11.6
600	30	4,322	-7.7	-21.0	28	12.7
550	30	4,994	-11.7	-25.3	28	13.9
500	30	5,717	-16.3	-28.8	28	14.0
450	30	6,501	-22.0	-34.0	28	15.4
400	30	7,356	-28.4	-39.7	28	17.8
350	30	8,304	-35.2	-45.9	28	17.0
300	30	9,356	-43.5	-47.7	29	16.4
250	30	10,559	-52.3		28	18.9
200	30	11,976	-59.7		29	22.9
175	30	12,809	-60.2		28	22.5
150	30	13,771	-59.6		28	20.9
125	30	14,909	-60.8		28	18.5
100	30	16,290	-62.5		28	15.2
80	30	17,664	-62.8		28	10.9
70	30	18,487	-62.4		28	7.2
60	29	19,442	-61.0		28	5.2
50	29	20,584	-58.4		27	3.4
40	28	21,992	-56.7		27	1.9
30	28	23,825	-55.0		26	2.3
25	27	24,996	-53.2		27	3.4
20	27	26,462	-51.2		27	3.7
15	25	28,317	-48.8		27	8.7
10	17	31,022	-42.4		27	13.4
7	5	33,466	-38.5			

GUADALUPE IS., MEXICO — 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	23	14.1	9.8	33	6.3
1000	30	145	13.1	7.5	32	7.2
950	30	575	12.3	-.2	33	5.9
900	30	1,029	12.7	-6.3	33	4.5
850	30	1,507	11.9	-10.2	32	4.3
800	29	2,013	9.8	-12.0	32	3.9
750	29	2,546	7.1	-14.3	30	4.2
700	29	3,109	4.1	-16.4	30	5.1
650	29	3,709	1.0	-19.2	29	5.6
600	29	4,347	-3.4	-23.1	28	5.8
550	29	5,029	-8.4	-26.3	28	7.0
500	29	5,760	-14.3	-30.7	28	8.0
450	29	6,550	-20.2	-35.9	27	9.9
400	29	7,411	-27.0	-42.0	27	11.8
350	29	8,362	-34.5	-48.2	27	13.0
300	29	9,418	-42.6		27	14.8
250	29	10,626	-51.5		27	18.1
200	29	12,048	-59.2		26	23.0
175	29	12,881	-60.7		26	24.1
150	29	13,839	-61.1		26	24.7
125	29	14,968	-63.0		26	21.7
100	29	16,333	-65.4		25	17.2
80	27	17,690	-65.3		26	10.7
70	27	18,505	-64.3		26	6.3
60	26	19,452	-63.0		25	3.4
50	25	20,581	-60.4		26	1.0
40	22	21,974	-58.1		29	1.7
30	21	23,805	-54.7		29	1.0
25	20	24,971	-54.0		26	2.9
20	18	26,407	-51.3		27	5.6
15	17	28,274	-47.7		27	8.2
10						
7						

• GUAM, MARIANA IS. — 1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	111	24.6	22.0	08	4.6
1000	14	114	25.1	22.3	08	5.5
950	30	557	21.8	19.7	08	9.7
900	30	1,026	18.9	15.8	09	10.2
850	30	1,515	16.2	11.6	09	9.3
800	30	2,030	14.5	4.3	08	8.0
750	30	2,574	12.0	-1.7	08	7.3
700	30	3,148	8.7	-7.4	08	6.2
650	30	3,758	6.1	-12.8	08	6.4
600	30	4,409	2.9	-15.6	08	5.7
550	30	5,109	-1.0	-20.0	06	4.3
500	30	5,863	-4.9	-24.9	04	2.6
450	30	6,684	-9.8	-28.9	35	1.9
400	30	7,583	-15.4	-33.3	31	3.6
350	30	8,582	-21.9	-39.1	29	6.9
300	29	9,695	-30.7	-46.4	29	9.1
250	29	10,962	-41.2	-54.0	28	10.3
200	29	12,440	-53.1		27	11.7
175	29	13,287	-59.9		27	11.9
150	29	14,233	-67.6		28	10.4
125	29	15,310	-75.1		28	8.0
100	29	16,583	-80.8		03	1.9
80	28	17,834	-81.6		07	4.5
70	28	18,589	-78.5		08	5.7
60	27	19,483	-72.0		09	5.5
50	27	20,579	-65.4		09	7.4
40	27	21,950	-61.7		09	12.3
30	26	23,758	-55.9		09	19.3
25	26	24,929	-52.0		09	20.5
20	25	26,383	-48.3		09	20.6
15	25	28,302	-43.2		08	19.9
10	22	31,054	-39.0		08	14.8
7	5	33,483	-35.4			

HILO, HI — 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	10	20.5	18.4	17	.4
1000	30	152	20.3	17.6	11	1.5
950	30	594	17.5	15.6	11	4.2
900	30	1,056	14.5	13.2	11	4.1
850	30	1,537	11.5	10.2	11	2.8
800	30	2,042	9.0	6.7	11	1.9
750	30	2,576	7.0	-2.9	10	2.2
700	30	3,141	5.0	-8.4	12	2.1
650	30	3,743	2.2	-13.6	17	1.6
600	30	4,385	-1.2	-19.2	21	1.5
550	30	5,074	-5.2	-23.3	26	2.5
500	30	5,815	-10.0	-28.2	27	5.1
450	30	6,619	-15.7	-32.7	27	7.7
400	30	7,496	-22.2	-38.9	27	10.7
350	30	8,467	-29.2	-45.0	27	15.3
300	30	9,547	-37.4	-51.9	28	21.5
250	30	10,782	-46.3		27	30.3
200	30	12,234	-55.8		27	39.5
175	30	13,074	-61.0		27	39.5
150	30	14,019	-66.4		27	36.1
125	30	15,111	-70.8		27	31.8
100	30	16,422	-74.0		27	21.6
80	30	17,723	-73.2		27	11.7
70	30	18,514	-68.4		26	5.4
60	30	19,449	-64.7		15	1.0
50	30	20,571	-61.7		09	5.8
40	30	21,962	-59.2		09	8.3
30	30	23,781	-55.2		09	11.7
25	30	24,953	-52.1		08	12.7
20	30	26,407	-49.7		09	12.4
15	27	28,308	-45.7		09	10.2
10	18	31,014	-42.1		11	5.8
7	6	33,477	-38.6			

HUNTINGTON, WV — 990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	246	9.6	3.8	21	.4
1000						
950	30	587	12.0	2.3	24	2.9
900	30	1,038	9.6	-.2	26	5.4
850	30	1,510	7.4	-3.3	27	7.7
800	30	2,007	4.5	-5.9	28	9.1
750	30	2,529	1.0	-9.0	28	9.6
700	30	3,081	-2.5	-12.3	28	10.0
650	30	3,665	-5.9	-16.1	28	10.7
600	30	4,288	-9.8	-20.4	28	12.9
550	30	4,955	-13.1	-25.3	27	14.1
500	30	5,675	-17.5	-30.0	27	16.3
450	30	6,456	-23.1	-35.2	27	17.1
400	30	7,308	-29.1	-40.3	27	18.6
350	30	8,251	-36.1	-44.9	27	20.7
300	30	9,301	-43.9	-48.3	27	22.4
250	30	10,503	-52.3		27	22.1
200	30	11,922	-58.8		27	24.0
175	30	12,758	-59.8		27	22.2
150	29	13,720	-59.2		27	21.2
125	29	14,864	-59.0		27	17.6
100	28	16,256	-60.0		27	13.2
80	28	17,648	-60.6		27	9.0
70	28	18,480	-60.5		27	6.6
60	28	19,442	-59.5		27	5.7
50	28	20,588	-57.8		28	3.3
40	27	22,002	-56.2		27	2.7
30	26	23,838	-54.7		26	1.4
25	25	25,004	-53.5		27	2.1
20	24	26,441	-51.8		26	2.9
15	20	28,321	-48.7		26	5.9
10	10	30,972	-45.6			
7						

• INTERNATIONAL FALLS, MN — 973 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	359	.7	-3.0	02	.8
1000						
950	30	552	3.8	-2.8	35	.7
900	30	992	4.1	-5.9	32	1.9
850	30	1,455	1.9	-8.6	31	3.8
800	30	1,942	-.8	-11.5	30	4.8
750	30	2,455	-3.6	-14.8	29	6.7
700	30	2,997	-6.8	-17.3	29	8.4
650	30	3,572	-10.0	-20.4	29	9.8
600	30	4,186	-13.2	-25.1	29	11.3
550	30	4,843	-17.8	-29.9	29	12.4
500	30	5,549	-22.8	-35.3	29	13.1
450	30	6,313	-28.2	-40.8	28	13.8
400	30	7,148	-34.4	-45.1	28	15.8
350	30	8,070	-41.3	-49.1	28	18.9
300	30	9,097	-46.8		28	20.2
250	30	10,278	-54.9		28	21.2
200	30	11,694	-57.4		28	20.3
175	30	12,539	-56.3		28	16.6
150	30	13,523	-54.5		28	14.0
125	30	14,690	-55.0		28	13.1
100	30	16,115	-55.2		28	9.9
80	30	17,539	-55.5		28	7.5
70	30	18,390	-56.0		28	6.0
60	30	19,371	-55.9		28	3.9
50	30	20,532	-55.8		28	2.6
40	29	21,957	-55.4		29	.5
30	29	23,795	-54.8		10	1.3
25	29	24,963	-54.3		10	.9
20	28	26,393	-53.6		15	.9
15	25	28,244	-51.7		20	1.6
10	19	30,902	-47.2		24	3.5
7	6	33,356	-41.4			

• ISLE DEL CISNE — 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	10	25.5	21.9	09	3.3
1000	30	123	25.1	21.0	09	4.3
950	30	572	21.5	18.5	09	5.7
900	30	1,040	18.7	13.9	10	5.5
850	30	1,529	15.7	10.2	10	4.6
800	30	2,042	13.1	6.0	10	4.2
750	30	2,593	11.2	-.4	09	3.6
700	30	3,157	8.2	-4.4	09	2.1
650	30	3,766	5.3	-8.1	11	.5
600	30	4,415	1.8	-12.4	34	.3
550	30	5,112	-2.2	-18.0	32	2.5
500	30	5,862	-6.9	-22.3	31	3.9
450	30	6,676	-12.5	-27.6	29	6.2
400	30	7,545	-18.8	-33.4	29	8.8
350	30	8,548	-26.3	-39.4	28	10.0
300	30	9,640	-35.0	-47.7	28	13.0
250	29	10,888	-44.3		28	16.5
200	28	12,351	-55.2		27	17.9
175	27	13,195	-60.1		27	19.9
150	27	14,144	-65.6		27	19.5
125	27	15,239	-70.6		27	15.9
100	27	16,545	-75.7		26	10.0
80	27	17,828	-76.9		26	3.9
70	26	18,600	-73.9		21	.1
60	26	19,512	-68.5		10	2.7
50	26	20,671	-62.9		09	4.7
40	26	22,014	-57.6		09	8.9
30	25	23,847	-53.4		09	13.9
25	25	25,027	-51.1		09	15.7
20	22	26,491	-46.7		09	14.6
15	19	28,422	-42.6		10	13.9
10	13	31,188	-38.2		09	7.7
7						

JACKSON, MS — 1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	13.5	11.4	18	1.1
1000	27	165	15.6	10.8	20	1.9
950	30	592	16.1	7.0	22	3.8
900	30	1,050	13.6	3.9	22	4.3
850	30	1,529	10.3	1.2	22	4.0
800	30	2,031	7.0	-2.7	22	4.1
750	30	2,559	4.2	-8.9	23	4.6
700	30	3,117	1.0	-14.0	23	5.1
650	30	3,709	-2.3	-18.0	24	6.1
600	30	4,341	-5.8	-21.1	24	7.6
550	30	5,017	-9.9	-24.8	25	9.0
500	30	5,745	-15.1	-29.9	25	10.9
450	30	6,533	-20.8	-35.5	25	12.5
400	30	7,392	-27.2	-41.0	25	14.8
350	30	8,343	-34.3	-47.1	25	16.0
300	30	9,400	-42.6	-50.0	25	18.1
250	30	10,607	-51.8		26	21.9
200	30	12,028	-59.3		26	23.9
175	30	12,861	-60.5		26	24.6
150	30	13,821	-60.7		26	25.4
125	30	14,952	-62.7		26	20.2
100	30	16,318	-65.8		26	16.8
80	28	17,673	-66.0		26	10.8
70	28	18,486	-65.1		27	7.8
60	27	19,426	-63.6		27	5.1
50	27	20,555	-60.1		27	3.2
40	27	21,956	-57.3		29	2.7
30	26	23,787	-54.4		29	3.7
25	25	24,959	-53.3		28	4.8
20	24	26,403	-51.4		27	7.1
15	23	28,287	-48.4		26	8.1
10	18	30,971	-43.7		27	12.6
7	8	33,383	-39.1			

JOHN F. KENNEDY INT. AP NY — 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	5	8.4	1.1	33	.7
1000	29	160	8.6	.0	30	2.7
950	30	578	7.4	-2.1	29	4.9
900	30	1,022	5.5	-5.1	28	7.3
850	30	1,487	3.5	-7.2	29	8.8
800	30	1,978	1.2	-10.6	29	10.6
750	30	2,495	-1.4	-13.1	29	12.6
700	30	3,041	-4.6	-15.7	29	14.0
650	30	3,622	-7.5	-19.2	29	14.8
600	30	4,241	-11.2	-23.7	28	16.2
550	30	4,904	-14.9	-26.7	29	18.8
500	30	5,619	-19.7	-31.2	28	20.9
450	30	6,393	-25.0	-36.4	28	22.4
400	30	7,238	-31.4	-41.4	28	23.8
350	30	8,174	-38.1	-45.0	28	25.1
300	30	9,216	-45.2	-46.9	28	27.2
250	30	10,414	-52.5		28	27.8
200	29	11,838	-56.8		28	27.2
175	29	12,682	-58.1		28	26.0
150	28	13,644	-56.9		28	22.1
125	27	14,800	-57.3		27	18.8
100	26	16,211	-59.2		27	15.1
80	25	17,613	-58.8		28	10.1
70	24	18,459	-58.6		28	7.5
60	24	19,428	-58.5		29	5.8
50	24	20,579	-56.3		30	4.6
40	24	21,997	-56.1		28	1.4
30	24	23,830	-55.3		29	2.2
25	23	24,998	-54.1		33	2.5
20	21	26,436	-52.5		30	2.1
15	21	28,308	-49.8		27	1.8
10	13	30,995	-43.5			
7						

JOHNSTON IS., PACIFIC AREA — 1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	3	24.4	21.0	07	8.3
1000	30	128	23.1	19.7	08	8.8
950	30	574	19.5	17.6	08	9.6
900	30	1,039	16.5	13.4	08	9.5
850	30	1,524	13.6	10.4	08	8.6
800	30	2,033	11.7	4.7	08	7.2
750	30	2,572	9.5	-.9	08	4.9
700	30	3,142	6.9	-9.2	07	3.4
650	30	3,748	4.2	-14.7	05	1.8
600	30	4,395	.9	-18.1	35	.8
550	30	5,089	-3.0	-21.7	30	2.2
500	30	5,838	-7.5	-25.3	27	4.4
450	30	6,650	-13.0	-29.6	28	6.3
400	30	7,537	-19.1	-35.1	28	11.1
350	30	8,520	-26.0	-40.4	27	16.5
300	30	9,616	-33.5	-46.8	27	25.7
250	30	10,872	-42.5		27	34.5
200	29	12,341	-54.2		27	39.9
175	29	13,184	-60.8		27	39.6
150	29	14,128	-67.5		27	37.7
125	29	15,209	-73.6		27	30.9
100	28	16,497	-77.5		28	20.8
80	27	17,773	-77.4		28	9.2
70	27	18,546	-73.7		28	4.9
60	26	19,460	-67.4		35	.2
50	26	20,571	-63.2		09	4.6
40	25	21,956	-59.9		09	10.2
30	24	23,771	-55.9		09	16.1
25	24	24,939	-53.0		09	17.2
20	24	26,393	-48.5		09	17.4
15	23	28,308	-44.0		09	15.5
10	17	31,052	-40.9		09	9.8
7	5	33,541	-35.9			

KEY WEST, FL — 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	3	22.6	18.1	07	4.0
1000	30	158	21.9	17.2	08	5.4
950	30	602	18.3	15.2	10	6.3
900	30	1,064	15.7	9.9	11	5.0
850	30	1,545	13.6	2.9	12	3.7
800	30	2,057	11.1	.1	14	2.3
750	30	2,593	8.5	-4.3	21	1.9
700	30	3,160	5.4	-8.6	24	2.4
650	30	3,763	2.3	-11.6	27	3.0
600	30	4,405	-1.3	-16.7	26	4.6
550	30	5,093	-5.6	-21.6	26	6.0
500	30	5,834	-10.6	-26.8	27	7.3
450	30	6,636	-16.0	-30.5	27	10.6
400	30	7,514	-22.1	-36.0	27	13.9
350	30	8,485	-29.3	-41.4	27	16.2
300	30	9,564	-37.6	-48.9	27	18.9
250	30	10,796	-47.1		28	22.6
200	30	12,242	-56.5		27	25.2
175	30	13,081	-60.6		27	25.1
150	30	14,034	-63.3		27	24.8
125	30	15,145	-66.9		27	21.3
100	30	16,479	-70.8		26	16.2
80	30	17,797	-71.5		27	8.1
70	30	18,588	-70.2		26	4.5
60	30	19,514	-66.1		25	1.6
50	30	20,635	-60.7		35	.4
40	29	22,039	-56.5		06	3.7
30	29	23,881	-52.6		07	4.0
25	29	25,065	-50.3		08	5.3
20	28	26,529	[illegible]		09	5.2
15	26	28,439	-44.5		15	1.7
10	19	31,169	-39.6			
7						

RAWINSONDE DATA

Average monthly values

APRIL 1977

KING SALMON, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	15	-4.8	-7.4	19	.3
1000	27	96	-5.5	-8.5	07	.9
950	30	462	-5.3	-8.8	10	1.2
900	30	895	-7.0	-11.1	16	1.7
850	30	1,329	-8.7	-14.0	18	2.2
800	30	1,798	-10.2	-17.0	20	2.5
750	30	2,294	-12.2	-20.1	21	3.1
700	30	2,819	-15.1	-25.8	22	4.0
650	30	3,376	-17.8	-28.5	23	5.3
600	30	3,971	-21.0	-31.6	23	6.9
550	30	4,609	-24.9	-34.5	23	6.4
500	30	5,296	-29.2	-37.6	22	9.0
450	30	6,042	-34.1	-38.4	23	10.2
400	30	6,856	-39.8	-41.8	24	7.5
350	30	7,760	-45.7		25	8.7
300	30	8,772	-50.8		25	9.9
250	30	9,953	-52.7		25	11.6
200	30	11,398	-50.7		25	10.2
175	30	12,270	-50.1		25	9.0
150	30	13,277	-50.3		25	8.8
125	30	14,467	-50.1		25	7.9
100	29	15,918	-50.8		24	6.2
80	29	17,372	-50.5		23	5.0
70	28	18,242	-51.0		23	4.5
60	27	19,247	-51.7		23	4.0
50	27	20,430	-51.7		21	2.8
40	24	21,862	-52.3		20	2.4
30	23	23,716	-53.2		18	1.6
25	21	24,904	-53.2		14	1.4
20	19	26,350	-53.1		09	1.6
15	17	28,236	-51.5			
10						
7						

KOROR, CAROLINE IS.
◆ 1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	30	28.3	24.0	06	4.2
1000	30	94	26.9	23.8	06	4.7
950	30	547	23.3	21.8	06	7.7
900	30	1,018	20.1	17.3	07	8.2
850	30	1,511	17.3	13.0	07	7.0
800	30	2,028	15.2	9.3	08	5.6
750	30	2,574	13.2	2.8	08	4.5
700	30	3,151	10.4	-.7	08	3.1
650	30	3,766	7.4	-5.7	08	2.8
600	30	4,421	3.7	-10.1	09	2.4
550	30	5,127	-.4	-15.5	08	1.9
500	30	5,878	-4.6	-19.8	10	1.6
450	29	6,701	-8.8	-24.3	11	1.6
400	29	7,604	-14.2	-31.1	08	3.2
350	28	8,609	-20.8	-37.6	07	4.4
300	28	9,726	-29.7	-43.4	09	2.8
250	28	10,998	-40.2	-52.4	15	3.5
200	28	12,481	-52.5		17	5.7
175	28	13,331	-59.4		17	4.5
150	28	14,279	-66.8		16	1.6
125	28	15,360	-74.6		02	1.5
100	28	16,632	-82.1		08	5.1
80	28	17,883	-80.3		08	5.7
70	28	18,645	-75.8		07	3.4
60	28	19,550	-69.9		08	2.0
50	28	20,650	-64.8		09	8.7
40	26	22,021	-61.7		09	19.0
30	24	23,829	-55.4		09	25.6
25	23	25,002	-52.0		09	26.8
20	19	26,474	-46.6		09	28.0
15	18	28,409	-41.0		09	25.9
10	16	31,199	-35.2		10	8.1
7	13	33,703	-31.3			

KOTZEBUE, AK
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	9	5	-25.4	-29.6		
1000	8	130	-19.6	-23.7		
950	9	498	-17.1	-23.7		
900	9	903	-17.8	-26.6		
850	9	1,330	-18.3	-27.7		
800	9	1,782	-19.9	-28.8		
750	9	2,259	-21.2	-29.4		
700	9	2,766	-23.2	-31.8		
650	9	3,306	-25.7	-35.4		
600	9	3,883	-28.7	-38.9		
550	9	4,501	-32.3	-42.7		
500	9	5,168	-35.9	-46.9		
450	9	5,894	-40.2			
400	9	6,690	-45.1			
350	[illegible]	7,575	-49.8			
300	9	8,571	-53.3			
250	9	9,746	-51.8			
200	9	11,203	-49.4			
175	9	12,078	-49.0			
150	9	13,091	-48.7			
125	9	14,290	-48.2			
100	9	15,765	-46.5			
80	9	17,245	-47.0			
70	9	18,129	-47.5			
60	9	19,147	-48.0			
50	9	20,346	-49.0			
40	[illegible]	21,811	-49.2			
30	9	23,697	-49.5			
25	9	24,891	-49.6			
20	7	26,330	-49.9			
15	6	28,218	-49.1			
10						
7						

LAKE CHARLES, LA
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	5	15.8	14.0	09	.7
1000	30	154	18.1	13.4	17	1.4
950	30	592	16.2	9.7	19	4.0
900	30	1,051	13.9	4.8	19	4.1
850	30	1,532	11.6	-.1	20	3.8
800	30	2,036	8.5	-2.0	22	4.2
750	30	2,567	5.5	-7.2	23	4.4
700	30	3,127	2.3	-12.0	24	5.2
650	30	3,723	-.9	-17.2	25	5.8
600	30	4,357	-4.5	-20.4	25	6.9
550	30	5,037	-9.0	-24.7	25	8.4
500	30	5,767	-13.9	-30.5	26	10.1
450	30	6,559	-19.4	-35.5	26	11.5
400	30	7,424	-26.0	-40.4	26	13.6
350	30	8,379	-33.3	-45.5	25	16.3
300	30	9,440	-41.7	-48.3	26	18.0
250	30	10,652	-50.8		26	22.4
200	30	12,077	-58.6		26	27.5
175	28	12,913	-61.0		26	26.3
150	28	13,872	-60.8		26	23.6
125	27	15,002	-63.1		26	20.2
100	26	16,362	-66.8		26	16.9
80	26	17,708	-67.0		26	11.0
70	25	18,518	-66.2		27	7.9
60	24	19,458	-63.6		27	5.6
50	24	20,587	-60.0		29	3.1
40	24	21,989	-57.4		31	1.7
30	23	23,825	-53.0		33	2.8
25	23	25,003	-52.2		28	3.5
20	22	26,454	-50.9		27	6.3
15	20	28,336	-47.5		26	9.0
10	15	31,046	-41.8		27	17.6
7						

LANDER, WY
830 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,697	3.3	-3.5	24	1.8
1000						
950						
900						
850						
800	30	1,997	5.1	-4.9	29	1.7
750	30	2,521	2.2	-7.5	30	1.8
700	30	3,075	-1.3	-11.6	29	2.8
650	30	3,661	-5.5	-15.6	28	3.6
600	30	4,284	-10.3	-19.2	28	4.6
550	30	4,947	-15.2	-23.6	28	5.5
500	30	5,660	-20.3	-30.0	27	6.4
450	30	6,432	-25.9	-36.5	26	7.6
400	30	7,274	-32.5	-42.0	24	9.3
350	30	8,204	-39.6	-47.6	24	9.8
300	30	9,237	-47.8		24	11.1
250	30	10,420	-55.6		24	11.1
200	30	11,822	-61.1		26	11.7
175	30	12,653	-60.1		26	12.2
150	30	13,621	-58.1		26	11.2
125	30	14,766	-58.9		26	10.1
100	30	16,167	-59.1		26	9.0
80	30	17,566	-58.7		26	7.5
70	30	18,404	-59.4		27	5.7
60	30	19,370	-59.2		28	4.7
50	30	20,513	-59.2		28	2.8
40	30	21,913	-58.7		30	2.7
30	29	23,726	-57.5		30	2.2
25	29	24,882	-56.0		30	2.5
20	27	26,310	-54.2		29	2.2
15	26	28,162	-51.8		27	3.6
10	18	30,793	-47.3		28	8.8
7	9	33,157	-42.7			

*** LIHUE KAUAI, HI**
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	36	21.7	18.1	09	4.1
1000	30	164	20.6	16.5	06	5.7
950	30	[illegible]	17.2	14.8	06	7.5
900	30	1,066	13.8	11.8	07	7.0
850	30	1,546	10.8	8.4	08	6.2
800	30	2,051	9.5	.4	08	[illegible]
750	30	2,585	8.2	-7.8	09	3.4
700	30	3,152	5.6	-11.9	10	2.5
650	30	3,754	2.4	-15.9	10	1.4
600	30	4,397	-1.3	-19.4	12	.7
550	30	5,085	-5.2	-23.3	25	.7
500	30	5,826	-10.3	-27.6	28	2.8
450	30	6,628	-16.3	-32.9	28	4.5
400	30	7,503	-23.1	-38.8	28	6.9
350	30	8,469	-30.6	-45.3	28	9.7
300	30	9,543	-39.0	-51.1	28	15.1
250	30	10,770	-47.9		28	23.0
200	30	12,211	-57.2		27	30.6
175	30	13,048	-61.1		29	31.9
150	30	13,997	-64.9		27	33.0
125	30	15,099	-68.7		27	28.9
100	30	16,423	-72.1		28	19.9
80	30	17,736	-71.7		27	11.2
70	30	18,531	-68.0		27	5.9
60	29	19,469	-63.0		26	2.1
50	29	20,601	-60.2		10	3.1
40	29	21,997	-58.6		09	6.3
30	28	23,821	-55.2		08	8.0
25	28	24,992	-52.5		08	8.2
20	28	26,445	-49.5		09	8.0
15	27	28,344	-45.8		08	4.9
10	25	31,075	-41.2		18	1.2
7	8	33,455	-39.5			

LITTLE ROCK, AR
999 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	79	14.3	9.2	23	1.2
1000	10	213	16.1	6.4	24	2.7
950	30	595	15.8	6.0	24	4.8
900	30	1,052	13.0	3.7	24	4.9
850	30	1,530	9.7	.7	24	4.6
800	30	2,030	6.4	-3.1	24	5.1
750	30	2,557	3.3	-8.1	24	4.8
700	30	3,112	-.2	-12.5	24	5.2
650	30	3,701	-3.8	-16.7	24	6.3
600	30	4,329	-7.4	-21.9	25	7.9
550	30	5,002	-11.6	-27.4	25	8.8
500	30	5,725	-16.5	-31.7	25	9.6
450	30	6,508	-22.3	-36.4	25	10.6
400	30	7,363	-28.7	-40.4	25	12.8
350	29	8,308	-35.6	-45.6	26	14.4
300	29	9,361	-43.3	-49.1	25	15.7
250	29	10,564	-52.3		25	18.5
200	28	11,984	-60.0		26	22.9
175	28	12,816	-60.2		26	23.0
150	28	13,779	-59.9		26	22.9
125	28	14,915	-61.1		27	19.1
100	28	16,294	-63.2		26	14.6
80	28	17,663	-63.6		27	10.5
70	28	18,483	-63.3		27	6.8
60	28	19,434	-61.9		27	4.8
50	28	20,569	-59.3		28	4.7
40	28	21,976	-56.8		29	3.1
30	27	23,809	-54.7		28	4.3
25	27	24,980	-53.4		27	5.1
20	27	26,423	-51.7		27	7.5
15	26	28,305	-47.7		27	9.0
10	23	31,016	-41.9		27	11.6
7						

LONGVIEW, TX
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	124	13.7	11.4	21	.8
1000	20	187	14.4	9.5	23	1.9
950	30	593	15.6	6.1	21	3.8
900	30	1,050	13.3	2.1	21	6.6
850	30	1,528	10.3	-.4	22	5.1
800	30	2,030	7.2	-3.8	23	5.4
750	30	2,558	4.4	-8.4	24	5.5
700	30	3,117	1.1	-13.0	25	5.4
650	30	3,709	-2.3	-16.8	25	6.0
600	30	4,341	-6.0	-21.2	25	8.0
550	30	5,016	-10.3	-25.9	25	9.3
500	30	5,743	-15.4	-30.6	25	10.5
450	30	6,530	-21.0	-35.3	26	12.5
400	30	7,389	-27.8	-41.4	25	14.3
350	30	8,337	-34.9	-46.7	25	16.5
300	30	9,392	-43.2	-47.3	26	18.8
250	30	10,596	-52.3		26	21.8
200	30	12,013	-59.6		26	22.8
175	30	12,846	-60.1		26	22.4
150	30	13,808	-60.3		26	20.6
125	30	14,940	-62.6		27	19.1
100	30	16,307	-65.2		27	13.7
80	30	17,664	-65.6		27	10.1
70	29	18,475	-64.9		27	8.8
60	29	19,420	-62.8		29	4.3
50	29	20,550	-60.3		29	4.3
40	29	21,952	-57.5		29	3.5
30	27	23,783	-54.6		29	3.9
25	27	24,955	-53.2		27	5.5
20	26	26,399	-51.7		27	6.1
15	24	28,283	-48.5		26	9.8
10	22	30,993	-41.6		26	13.2
7	5	33,361	-39.8			

MCGRATH, AK
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	103	-10.2	-14.2	34	1.1
1000	11	142	-6.5	-12.0	33	1.4
950	30	477	-7.6	-12.3	05	1.2
900	30	897	-9.0	-12.9	16	1.8
850	30	1,339	-10.7	-14.6	18	3.1
800	30	1,804	-12.5	-17.4	18	4.1
750	30	2,295	-14.5	-19.9	19	4.5
700	30	2,816	-17.2	-23.5	20	5.7
650	30	3,368	-20.2	-26.5	20	6.9
600	30	3,957	-23.7	-30.1	20	7.8
550	30	4,588	-27.6	-34.8	20	9.0
500	30	5,268	-31.9	-39.4	21	10.0
450	30	6,005	-36.7	-41.7	22	10.5
400	30	6,811	-42.1	-47.0	22	11.6
350	30	7,707	-47.7		23	13.0
300	30	8,710	-52.5		24	15.0
250	30	9,887	-52.1		24	14.7
200	30	11,340	-49.6		25	9.8
175	30	12,215	-49.5		25	8.8
150	30	13,224	-49.6		24	8.5
125	30	14,418	-49.2		24	7.9
100	30	15,883	-49.3		23	6.7
80	29	17,350	-49.9		23	5.9
70	29	18,224	-49.8		22	5.3
60	29	19,231	-50.4		21	4.7
50	29	20,421	-50.5		20	3.4
40	29	21,873	-51.6		20	2.8
30	29	23,738	-52.2		14	2.2
25	29	24,918	-52.5		11	2.9
20	29	26,359	-52.9		11	4.0
15	17	28,248	-51.4		11	4.1
10						
7						

MAJURO, MARSHALL IS.
◆ 1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	3	28.0	24.2	07	5.8
1000	30	95	26.6	22.8	07	7.2
950	30	548	23.1	21.4	07	9.6
900	30	1,019	20.4	17.8	08	9.3
850	30	1,512	17.6	14.7	09	7.8
800	30	2,031	15.7	10.8	09	5.7
750	30	2,578	13.8	4.8	09	4.3
700	30	3,157	10.7	1.8	11	2.4
650	30	3,772	7.3	-1.1	15	1.3
600	30	4,427	3.7	-6.3	23	1.1
550	30	5,130	.0	-10.0	25	1.3
500	30	5,888	-4.1	-14.8	26	2.1
450	30	6,712	-8.7	-19.6	25	2.5
400	30	7,616	-14.1	-26.7	25	4.3
350	30	8,620	-20.7	-33.6	24	5.5
300	30	9,738	-29.1	-40.5	23	7.3
250	30	11,014	-39.4	-49.9	22	9.2
200	30	12,502	-51.7		23	9.8
175	30	13,355	-58.4		24	10.4
150	29	14,307	-66.1		25	10.6
125	29	15,393	-73.6		27	10.9
100	29	16,673	-80.3		27	8.0
80	29	17,928	-79.7		29	2.2
70	29	18,694	-75.3		29	1.7
60	29	19,599	-69.8		05	.6
50	29	20,702	-63.7		09	7.9
40	28	22,082	-60.7		09	19.1
30	28	23,898	-54.4		09	25.2
25	28	25,075	-51.2		09	27.3
20	29	26,540	-46.7		09	28.7
15	25	28,478	-40.5		09	24.3
10	15	31,278	-34.1		12	4.2
7						

*** MEDFORD, OR**
973 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	401	[illegible]	.6	31	.5
1000						
950	30	597	7.9	.0	29	1.0
900	30	1,043	7.0	-1.7	25	.4
850	30	1,510	4.8	-5.3	22	.6
800	30	2,003	2.7	-10.8	25	1.1
750	30	2,522	.0	-14.4	27	1.7
700	30	3,072	-3.2	-17.3	26	3.5
650	30	3,654	-6.8	-21.4	25	4.9
600	30	4,274	-10.8	-23.7	25	6.2
550	30	4,938	-15.0	-28.5	25	7.6
500	30	5,652	-20.1	-31.8	25	8.7
450	30	6,424	-26.0	-36.2	25	9.3
400	30	7,265	-32.4	-42.9	26	10.9
350	30	8,196	-39.7	-47.5	25	13.1
300	30	9,229	-47.8		25	14.9
250	30	10,409	-56.1		25	17.4
200	29	11,815	-60.6		25	15.6
175	29	12,647	-60.0		26	13.4
150	28	13,619	-58.6		25	11.8
125	28	14,763	-59.1		25	[illegible]
100	28	16,162	-59.4		25	7.7
80	28	17,563	-58.0		25	5.6
70	28	18,406	-57.6		25	4.7
60	28	19,379	-58.2		26	2.9
50	28	20,526	-58.5		29	1.7
40	27	21,926	-58.6		32	1.7
30	25	23,737	-57.5		32	2.4
25	25	24,871	-56.5		32	2.3
20	23	26,306	-55.6		31	3.2
15	17	28,196	-52.5		31	3.9
10						
7						

MERIDA, MEXICO
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	11	21.1	19.0	08	1.3
1000	29	136	21.5	18.6	09	3.4
950	29	580	19.6	15.7	10	6.4
900	29	1,045	17.5	10.1	11	5.0
850	29	1,533	15.7	5.3	12	2.3
800	29	2,046	13.1	3.8	20	1.5
750	29	2,586	10.4	-.9	25	2.0
700	29	3,157	7.2	-5.4	27	3.7
650	29	3,763	3.6	-8.0	27	4.4
600	29	4,408	-.8	-14.0	27	4.8
550	29	5,098	-4.3	-19.9	27	6.6
500	29	5,843	-8.8	-24.4	27	8.8
450	29	6,650	-14.3	-28.4	27	10.9
400	29	7,533	-20.6	-33.4	27	14.4
350	29	8,510	-27.8	-39.3	27	16.8
300	29	9,595	-36.7	-48.3	27	19.0
250	29	10,831	-46.4		27	23.0
200	29	12,280	-56.4		27	28.8
175	29	13,119	-60.7		27	28.3
150	29	14,068	-65.1		27	25.8
125	29	15,168	-69.1		27	22.5
100	29	16,487	-73.5		27	16.7
80	26	17,794	-75.0		26	8.0
70	26	18,573	-73.4		24	3.0
60	26	19,484	-68.8		12	.8
50	26	20,594	-62.3		08	3.3
40	25	21,984	-58.1		08	5.8
30	25	23,816	-54.0		08	10.2
25	25	24,994	-51.6		09	10.6
20	24	26,455	-48.0		09	10.7
15	23	28,373	-44.2		09	8.4
10	12	31,113	-40.6			
7						

MIDLAND, TX
916 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	874	10.1	[illegible]	15	1.4
1000						
950						
900	30	1,022	12.5	5.3	17	3.3
850	30	1,502	12.5	.8	20	4.7
800	30	2,009	10.2	-2.9	23	3.4
750	30	2,543	7.1	-7.0	26	4.2
700	30	3,106	2.9	-9.9	27	5.0
650	30	3,702	-1.6	-13.7	28	6.0
600	30	4,333	-6.3	-17.6	27	7.3
550	30	5,008	-11.1	-22.8	26	9.1
500	30	5,733	-16.0	-27.8	26	10.4
450	30	6,518	-21.3	-33.5	26	13.2
400	30	7,376	-27.9	-38.8	25	14.8
350	30	8,324	-34.8	-45.4	25	16.4
300	30	9,380	-42.7		25	17.5
250	30	10,586	-51.7		25	20.6
200	30	12,007	-59.0		26	23.6
175	30	12,844	-59.1		26	23.1
150	30	13,812	-59.0		27	19.9
125	30	14,949	-61.6		27	17.2
100	30	16,324	-63.7		27	13.0
80	30	17,689	-64.6		27	9.3
70	29	18,507	-64.1		27	6.7
60	28	19,456	-62.1		28	4.4
50	28	20,587	-60.1		28	3.9
40	27	21,989	-57.5		30	3.3
30	27	23,822	-54.3		28	5.5
25	26	24,999	-52.7		28	[illegible]
20	26	26,445	-51.2		26	7.5
15	26	28,327	-48.5		26	10.1
10	24	31,034	-41.9		27	15.3
7	14	33,432	-39.2		27	19.4

MONTERREY, MEXICO
964 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	423	15.6	13.3	32	.9
1000						
950	30	577	16.4	12.9	05	.4
900	30	1,037	15.3	10.0	13	2.6
850	30	1,521	14.0	6.1	16	4.2
800	30	2,031	12.3	.7	18	3.7
750	30	2,571	10.0	-5.2	23	3.3
700	30	3,140	6.2	-9.4	26	4.0
650	30	3,743	2.1	-12.0	27	6.1
600	30	4,384	-2.4	-14.7	26	8.2
550	30	5,068	-7.4	-19.5	26	10.0
500	30	5,803	-12.6	-26.8	26	11.2
450	30	6,600	-17.7	-32.8	26	13.8
400	30	7,471	-24.0	-36.9	26	17.9
350	30	8,434	-31.2	-42.8	26	20.3
300	30	9,504	-39.9	-50.4	26	23.0
250	30	10,724	-49.5		26	28.3
200	30	12,153	-58.8		26	32.3
175	30	12,988	-60.4		26	30.5
150	29	13,944	-63.0		26	27.6
125	29	15,058	-66.0		26	24.1
100	28	16,400	-69.4		26	17.9
80	25	17,721	-70.9		25	11.1
70	25	18,516	-68.4		25	8.0
60	24	19,448	-65.6		25	3.9
50	24	20,568	-61.3		26	.9
40	24	21,964	-57.9		07	2.0
30	24	23,796	-53.4		07	2.6
25	22	24,974	-51.9		07	2.4
20	21	26,429	-49.8		06	1.4
15	20	28,325	-46.6		26	2.7
10	13	31,046	-39.8		27	6.2
7						

MONETT, MO
966 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	438	11.2	7.9	18	1.9
1000						
950	29	583	14.1	[illegible]	22	6.1
900	30	1,033	12.5	2.6	23	8.2
850	30	1,510	9.4	-.4	24	7.7
800	30	2,010	6.1	-3.7	24	7.1
750	30	2,536	2.8	-8.1	25	7.4
700	30	3,091	-.7	-12.0	25	6.8
650	30	3,680	-4.3	-15.6	26	7.0
600	30	4,306	-8.2	-20.2	26	7.2
550	30	4,976	-12.5	-25.8	25	8.1
500	30	5,697	-17.5	-29.5	25	9.5
450	30	6,478	-22.9	-35.8	26	10.1
400	30	7,331	-29.0	-41.6	26	12.3
350	30	8,276	-36.1	-46.7	26	14.0
300	30	9,324	-44.1		26	15.5
250	30	10,524	-52.9		25	18.3
200	30	11,939	-59.7		26	18.1
175	30	12,771	-60.1		26	19.1
150	30	13,736	-59.0		27	19.3
125	30	14,880	-59.7		27	15.8
100	29	16,275	-60.7		27	11.5
80	28	17,658	-62.3		27	9.2
70	28	18,484	-61.8		27	6.8
60	28	19,441	-60.4		28	4.7
50	27	20,580	-59.2		29	4.1
40	27	21,986	-56.8		29	2.8
30	27	23,816	-54.9		28	3.6
25	27	24,985	-53.8		26	4.2
20	27	26,427	-51.4		26	5.4
15	27	28,306	-48.9		27	7.8
10	22	30,994	-43.5		26	10.1
7	8	33,442	-37.3			

RAWINSONDE DATA

Average monthly values

APRIL 1977

NASHVILLE, TN
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	180	11.6	8.0	19	.8
1000	8	223	12.1	2.9		
950	30	594	14.4	5.8	25	3.8
900	30	1,050	12.3	3.2	26	6.1
850	30	1,526	9.2	.8	27	6.5
800	30	2,026	5.7	-1.9	27	7.2
750	30	2,551	1.9	-6.[illegible]	27	8.1
700	30	3,104	-1.8	-11.1	27	8.8
650	30	3,690	-5.1	-14.[illegible]	27	8.9
600	30	4,315	-8.6	-20.0	27	10.8
550	30	4,985	-12.5	-26.[illegible]	27	11.6
500	30	5,706	-17.2	-29.2	26	12.4
450	30	6,498	-22.5	-33.9	26	14.1
400	30	7,342	-28.9	-39.3	26	14.9
350	29	8,285	-36.0	-43.6	27	15.5
300	29	9,334	-44.0	-48.5	27	18.1
250	29	10,535	-52.7		27	18.7
200	29	11,952	-59.4		28	19.7
175	29	12,787	-60.1		27	20.2
150	29	13,749	-59.6		27	21.6
125	29	14,887	-60.4		28	16.8
100	29	16,271	-62.4		27	12.9
80	29	17,647	-62.7		28	[illegible].7
70	29	18,471	-62.3		28	7.5
60	29	19,425	-61.4		27	5.1
50	29	20,562	-58.9		28	4.1
40	29	21,970	-57.0		29	3.1
30	29	23,798	-55.2		27	2.8
25	28	24,965	-53.8		26	3.6
20	27	26,406	-51.9		27	5.3
15	26	28,285	-49.0		27	7.6
10	23	30,982	-43.4		26	11.4
7	11	33,391	-40.2			

• NOME, AK
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	-14.7	-19.7	06	1.4
1000	27	101	-11.6	-15.2	08	1.8
950	30	484	-11.9	-17.1	08	1.2
900	30	898	-12.4	-19.6	06	.7
850	30	1,333	-13.5	-21.0	01	1.0
800	30	1,793	-15.0	-22.1	35	1.1
750	30	2,280	-16.8	-26.3	32	1.8
700	30	2,795	-19.3	-28.[illegible]	30	2.1
650	30	3,343	-22.[illegible]	-31.5	28	3.2
600	30	3,928	-25.4	-35.8	28	4.0
550	30	4,555	-29.0	-39.1	28	4.7
500	30	5,231	-33.2	-42.0	27	6.3
450	30	5,964	-37.9	-45.1	27	7.4
400	30	6,767	-43.1	-47.5	26	7.9
350	30	7,659	-48.7		26	8.8
300	30	8,659	-52.3		26	9.2
250	30	9,838	-51.7		26	8.9
200	30	11,296	-48.[illegible]		25	8.2
175	30	12,175	-48.6		25	7.7
150	30	13,189	-48.8		25	7.3
125	30	14,387	-48.6		24	7.5
100	30	15,855	-48.5		24	6.6
80	30	17,324	-48.6		23	5.8
70	30	18,202	-48.9		23	5.0
60	29	19,223	-49.[illegible]		22	4.5
50	28	20,413	-49.8		21	3.5
40	27	21,870	-50.3		19	2.4
30	27	23,744	-51.0		15	2.4
25	27	24,930	-51.3		11	2.7
20	24	26,387	-51.6		09	3.2
15	14	28,275	-50.8		08	4.3
10						
7						

NORTH PLATTE, NE
918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	847	5.6	3.2	01	1.0
1000						
950						
900	30	1,007	9.0	2.2	34	.8
850	30	1,481	8.6	-.7	30	2.4
800	30	1,980	6.2	-3.4	30	3.1
750	30	2,506	2.8	-6.6	30	3.[illegible]
700	30	3,062	-.7	-10.3	29	5.1
650	30	3,650	-4.7	-13.8	29	[illegible].0
600	30	4,275	-8.7	-19.9	29	[illegible].0
550	30	4,944	-13.3	-25.3	28	7.2
500	30	5,662	-18.4	-31.2	28	7.4
450	30	6,440	-24.0	-36.2	28	7.6
400	30	7,288	-30.7	-41.6	28	[illegible].1
350	30	8,224	-38.3	-47.6	27	[illegible].2
300	30	9,263	-46.6		26	10.3
250	30	10,452	-54.6		25	13.[illegible]
200	30	11,858	-60.6		26	15.8
175	30	12,689	-59.8		26	13.8
150	30	13,657	-57.9		27	13.0
125	30	14,807	-57.8		26	12.[illegible]
100	30	16,211	-59.0		27	10.7
80	29	17,605	-60.0		27	7.8
70	29	18,439	-59.7		28	6.8
60	29	19,404	-59.1		29	5.1
50	29	20,548	-58.4		29	3.4
40	29	21,955	-57.5		29	[illegible].0
30	29	23,781	-55.9		27	2.4
25	28	24,943	-54.9		28	2.5
20	27	26,378	-52.7		27	3.[illegible]
15	27	28,246	-49.9		27	5.2
10	23	30,931	-44.2		27	[illegible].2
7	11	33,323	-39.7			

OAKLAND, CA
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	6	9.7	6.8	22	.5
1000	30	144	10.1	6.1	25	.8
950	30	571	11.5	-.9	31	2.1
900	30	1,024	12.1	-5.0	33	3.3
850	30	1,500	9.6	-8.3	32	2.6
800	30	2,000	6.7	-10.3	28	2.1
750	30	2,527	3.8	-13.3	25	2.8
700	30	3,084	.5	-18.2	27	3.0
650	30	3,675	-2.9	-21.2	28	4.0
600	30	4,304	-6.9	-25.1	28	6.1
550	30	4,977	-11.6	-28.0	27	7.5
500	30	5,700	-16.9	-31.7	28	8.7
450	30	6,482	-23.0	-36.0	28	9.8
400	30	7,333	-29.8	-41.5	28	11.5
350	30	8,273	-37.3	-47.7	29	12.4
300	30	9,316	-46.0		29	13.0
250	30	10,505	-55.0		29	15.0
200	30	11,902	-62.8		28	16.9
175	30	12,726	-61.7		28	16.1
150	30	13,686	-59.7		27	13.8
125	30	14,826	-60.2		27	12.4
100	30	16,216	-60.5		27	9.8
80	30	17,608	-59.9		26	7.5
70	30	18,444	-59.2		26	6.3
60	29	19,408	-59.2		27	4.0
50	29	20,551	-59.1		28	[illegible]
40	29	21,952	-58.5		30	1.8
30	29	23,768	-56.[illegible]		30	[illegible].5
25	28	24,926	-55.8		30	[illegible].8
20	26	26,352	-53.[illegible]		29	4.7
15	26	28,213	-50.9		29	6.5
10	17	30,875	-45.2		27	11.1
7						

OMAHA, NE
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	408	9.2	4.7	30	.7
1000						
950	29	562	11.1	3.5	23	1.6
900	30	1,006	10.3	.2	25	3.5
850	30	1,480	7.9	-3.2	27	5.0
800	30	1,978	5.2	-6.2	26	5.5
750	30	2,502	2.0	-8.9	27	5.[illegible]
700	30	3,095	-1.7	-11.4	27	5.7
650	30	3,641	-5.6	-14.1	27	6.5
600	30	4,264	-9.6	-19.1	27	6.9
550	30	4,930	-13.9	-25.6	27	8.6
500	30	5,647	-18.8	-31.5	27	9.1
450	30	6,424	-24.0	-37.2	28	10.1
400	30	7,272	-30.7	-41.7	27	10.9
350	30	8,209	-38.0	-47.7	27	11.6
300	30	9,250	-45.9		27	15.5
250	30	10,443	-53.9		26	16.8
200	29	11,860	-59.9		26	18.2
175	29	12,693	-60.0		26	17.7
150	29	13,661	-58.2		26	14.8
125	29	14,810	-58.1		26	14.3
100	29	16,213	-59.1		27	10.7
80	28	17,607	-59.8		27	8.2
70	28	18,441	-59.7		27	6.5
60	28	19,405	-59.5		27	4.5
50	28	20,550	-58.0		29	3.3
40	28	21,957	-57.3		27	1.9
30	28	23,783	-55.8		26	2.1
25	28	24,947	-54.9		26	2.4
20	28	26,379	-53.3		26	2.7
15	26	28,246	-50.5		26	4.8
10	23	30,921	-45.2		27	7.1
7	6	33,339	-41.0			

♦ PAGO PAGO, AMERICAN SAMOA
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	29.9	24.5	13	1.2
1000	30	86	28.0	23.8	12	1.2
950	30	540	24.1	21.8	11	1.1
900	30	1,013	20.8	18.[illegible]	06	.9
850	30	1,507	18.1	14.2	04	.6
800	30	2,025	16.1	8.7	35	.7
750	30	2,572	13.7	4.8	32	1.1
700	30	3,151	10.7	.3	30	1.3
650	30	3,766	7.4	-4.1	30	1.6
600	30	4,421	3.7	-9.1	30	1.8
550	30	5,122	-.3	-13.0	32	1.9
500	30	5,878	-4.9	-18.8	30	1.8
450	30	6,700	-9.6	-24.2	28	2.3
400	30	7,599	-15.9	-30.7	27	2.8
350	30	8,595	-22.9	-35.8	28	3.5
300	30	9,703	-31.1	-43.5	26	5.1
250	29	10,970	-40.9	-52.[illegible]	28	5.5
200	29	12,449	-52.9		28	6.9
175	29	13,297	-59.6		27	7.2
150	29	14,245	-66.7		26	6.2
125	29	15,328	-73.9		25	[illegible].3
100	29	16,607	-80.3		35	1.2
80	29	17,867	-79.0		09	3.0
70	29	18,633	-75.2		09	5.4
60	29	19,538	-70.6		09	9.0
50	29	20,636	-64.8		09	11.9
40	28	22,015	-59.8		09	14.1
30	28	23,837	-54.6		09	20.5
25	28	25,012	-51.7		09	23.7
20	27	26,478	-46.9		09	25.6
15	28	28,404	-43.7		09	24.0
10	28	31,155	-39.6		09	13.1
7	8	33,605	-35.6			

• PEORIA, IL
993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	200	8.8	4.1	16	1.0
1000						
950	30	569	11.0	5.2	23	3.8
900	30	1,020	9.9	.[illegible]	25	5.9
850	30	1,493	7.4	-2.6	26	6.5
800	30	1,990	4.4	-4.[illegible]	26	7.3
750	30	2,513	1.0	-7.7	26	8.0
700	30	3,064	-2.6	-11.4	27	[illegible].5
650	30	3,648	-6.2	-16.9	27	9.4
600	30	4,271	-9.9	-20.2	27	10.5
550	30	4,937	-14.0	-25.5	28	11.4
500	30	5,654	-19.1	-28.9	28	12.1
450	30	6,430	-24.3	-34.2	28	13.5
400	30	7,278	-30.7	-40.6	28	15.5
350	30	8,215	-37.7	-44.8	27	17.3
300	30	9,259	-45.3		27	19.7
250	29	10,649	-53.5		27	20.[illegible]
200	29	11,865	-59.1		27	21.5
175	29	12,699	-59.9		27	21.0
150	29	13,665	-58.2		27	18.6
125	29	14,816	-57.7		27	15.8
100	29	16,220	-58.8		27	12.5
80	29	17,617	-59.8		28	[illegible].1
70	29	18,451	-59.9		27	6.7
60	29	19,415	-59.6		28	4.7
50	29	20,561	-58.0		29	3.0
40	28	21,973	-56.8		27	2.0
30	27	23,801	-55.4		26	2.1
25	25	24,974	-53.8		25	1.[illegible]
20	23	26,415	-52.5		26	2.[illegible]
15	22	28,285	-50.[illegible]		26	5.[illegible]
10	19	30,975	-43.6		26	8.0
7	8	33,444	-39.2			

• PITTSBURGH, PA
976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	359	7.6	1.2	24	1.4
1000						
950	29	589	9.0	.9	26	3.1
900	30	1,028	7.0	-.[illegible]	27	5.[illegible]
850	30	1,496	4.5	-2.1	28	7.8
800	30	1,988	2.1	-5.1	28	9.7
750	30	2,507	-.8	-7.7	28	11.1
700	30	3,055	-3.9	-12.5	29	13.[illegible]
650	30	3,636	-7.2	-16.1	29	14.0
600	30	4,256	-11.1	-21.[illegible]	28	14.8
550	30	4,919	-15.2	-26.6	28	16.2
500	30	5,634	-19.5	-30.3	28	18.0
450	30	6,408	-24.8	-35.6	28	19.2
400	29	7,271	-30.[illegible]	-39.7	28	20.7
350	29	8,210	-37.2	-43.[illegible]	28	22.9
300	29	9,255	-45.1		28	25.0
250	28	10,453	-53.0		28	26.5
200	28	11,871	-58.9		28	26.4
175	28	12,706	-60.1		28	25.[illegible]
150	28	13,671	-58.6		28	18.8
125	27	14,823	-58.6		28	15.5
100	27	16,224	-59.3		28	13.1
80	27	17,620	-59.7		28	[illegible].2
70	26	18,455	-59.7		28	5.6
60	26	19,420	-59.1		28	5.2
50	25	20,571	-57.3		27	2.7
40	25	21,985	-56.4		27	1.2
30	24	23,813	-55.1		23	1.[illegible]
25	24	24,981	-54.1		26	1.[illegible]
20	24	26,418	-52.5		27	1.8
15	20	28,289	-49.5		27	4.6
10	11	30,979	-44.5			
7						

♦ PONAPE, CAROLINE IS.
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	39	28.[illegible]	24.1	07	3.2
1000	30	80	26.9	23.2	07	[illegible].1
950	30	533	23.2	20.8	08	7.6
900	30	1,004	20.1	17.3	08	[illegible].5
850	30	1,497	17.7	13.1	09	6.8
800	30	2,015	16.2	8.1	09	3.3
750	30	2,562	13.4	5.0	09	2.7
700	30	3,140	10.4	1.0	08	2.3
650	30	3,755	7.0	-2.3	07	1.6
600	30	4,409	3.4	-5.4	08	.6
550	30	5,110	-.6	-7.9	17	.7
500	30	5,867	-4.6	-11.5	17	1.3
450	30	6,691	-9.0	-19.2	21	1.8
400	30	7,594	-14.1	-26.3	22	1.8
350	30	8,597	-21.0	-33.3	25	2.1
300	30	9,714	-29.[illegible]	-41.9	22	3.9
250	30	10,988	-39.7	-51.8	21	5.6
200	30	12,473	-52.3		21	5.6
175	30	13,324	-59.2		23	6.1
150	30	14,272	-66.7		26	5.6
125	30	15,356	-74.5		29	5.5
100	30	16,627	-81.2		31	1.6
80	30	17,877	-81.1		06	1.9
70	30	18,639	-75.6		04	.8
60	30	19,546	-68.7		07	1.3
50	30	20,650	-64.9		10	8.4
40	30	22,026	-60.9		09	19.8
30	28	23,841	-55.0		09	26.0
25	27	25,016	-51.3		09	27.8
20	26	26,481	-47.2		09	29.2
15	25	28,406	-41.9		09	25.8
10	23	31,195	-35.0		10	6.6
7	8	33,698	-32.3			

PORTLAND, ME
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	20	2.8	-2.9	29	1.1
1000	28	143	4.0	-3.4	30	1.7
950	30	550	3.3	-5.8	29	3.9
900	30	987	1.1	-7.2	29	4.9
850	30	1,445	-1.0	-8.8	30	7.1
800	30	1,928	-2.3	-11.2	30	8.7
750	30	2,439	-4.3	-13.6	30	10.7
700	30	2,980	-6.7	-16.5	29	12.2
650	30	3,556	-9.9	-19.[illegible]	28	13.8
600	30	4,169	-13.5	-24.2	28	15.8
550	30	4,826	-17.7	-28.7	28	17.7
500	30	5,533	-22.4	-33.4	28	18.7
450	30	6,299	-27.4	-38.[illegible]	28	21.0
400	30	7,137	-33.1	-42.6	28	22.0
350	30	8,066	-39.3	-44.9	28	25.5
300	30	9,106	-45.4		28	25.7
250	30	10,306	-51.1		28	24.9
200	30	11,746	-54.5		28	23.7
175	30	12,598	-54.7		28	22.0
150	30	13,586	-53.9		27	18.7
125	30	14,753	-55.2		27	15.9
100	30	16,176	-55.6		28	11.8
80	30	17,597	-56.2		27	7.7
70	30	18,445	-56.4		27	6.1
60	30	19,426	-56.0		27	5.1
50	30	20,587	-55.1		27	3.2
40	29	22,014	-55.2		26	2.9
30	29	23,852	-54.5		27	1.6
25	29	25,022	-53.9		29	1.3
20	27	26,496	-53.0		27	2.5
15	26	28,325	-49.9		27	3.6
10	22	31,004	-44.3		28	8.3
7	9	33,396	-39.7			

• QUILLAYUTE, WA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	58	4.6	3.5	14	1.1
1000	30	163	6.2	3.9	17	1.8
950	30	584	5.8	.6	19	3.6
900	30	1,026	4.5	-4.0	20	3.4
850	30	1,490	2.0	-7.8	22	4.0
800	30	1,977	-.4	-11.3	23	4.7
750	30	2,490	-3.1	-15.[illegible]	24	5.1
700	30	3,033	-6.2	-17.6	24	6.0
650	30	3,610	-9.5	-20.9	25	7.0
600	30	4,224	-13.4	-23.7	25	7.7
550	30	4,881	-17.7	-27.0	26	8.2
500	30	5,587	-22.9	-31.5	25	8.7
450	30	6,350	-28.4	-38.1	25	9.8
400	30	7,184	-34.9	-42.4	25	11.3
350	30	8,105	-41.8	-48.7	25	11.7
300	30	9,130	-49.3		25	12.4
250	29	10,310	-55.6		26	12.9
200	27	11,712	-58.6		26	12.9
175	27	12,555	-57.1		25	11.5
150	27	13,532	-56.5		26	9.9
125	27	14,689	-56.8		25	7.8
100	27	16,103	-56.8		25	6.7
80	26	17,520	-56.0		25	4.8
70	26	18,370	-55.7		26	3.7
60	26	19,351	-56.3		26	3.3
50	25	20,509	-57.0		28	1.7
40	24	21,928	-57.1		33	1.2
30	23	23,752	-56.8		03	.9
25	22	24,912	-56.2		01	2.3
20	19	26,347	-54.9		02	2.7
15	17	28,191	-52.2		02	2.3
10	6	30,856	-46.6			
7						

RAPID CITY, SD
905 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	966	4.8	-.3	34	3.6
1000						
950						
900	25	1,030	6.[illegible]	-.9	33	3.0
850	30	1,485	7.7	-4.0	33	3.7
800	30	1,983	4.9	-6.7	33	3.8
750	30	2,506	1.2	-8.7	32	5.0
700	30	3,057	-2.3	-11.[illegible]	31	6.2
650	30	3,642	-6.4	-16.4	31	6.5
600	30	4,262	-10.6	-21.4	30	7.[illegible]
550	30	4,926	-15.0	-25.7	29	8.5
500	30	5,640	-20.2	-30.1	29	9.[illegible]
450	29	6,411	-25.7	-35.3	29	9.[illegible]
400	29	7,253	-32.5	-40.6	29	11.2
350	29	8,183	-39.7	-46.2	28	11.0
300	28	9,213	-47.6		27	10.[illegible]
250	28	10,396	-55.5		27	12.[illegible]
200	28	11,796	-61.5		26	13.[illegible]
175	28	12,626	-60.2		27	13.4
150	28	13,593	-59.1		27	12.1
125	28	14,743	-58.0		27	11.2
100	28	16,148	-58.7		27	9.2
80	28	17,549	-59.0		27	7.3
70	28	18,387	-59.0		28	5.6
60	28	19,354	-59.1		28	4.3
50	28	20,497	-58.9		28	3.5
40	28	21,900	-58.3		28	3.1
30	28	23,718	-56.6		29	1.6
25	28	24,877	-55.6		27	1.0
20	26	26,303	-54.0		26	2.2
15	21	28,154	-52.1		28	3.6
10	11	30,861	-45.9			
7						

ST CLOUD, MN
979 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	316	4.6	1.3	04	1.0
1000						
950	30	563	7.2	.6	27	.5
900	30	1,008	7.1	-2.7	29	3.2
850	30	1,477	4.9	-5.6	29	4.6
800	30	1,969	2.0	-8.2	30	[illegible].5
750	30	2,487	-1.1	-11.6	30	[illegible].5
700	30	3,034	-4.6	-14.0	30	6.9
650	30	3,614	-8.2	-18.5	29	7.9
600	30	4,231	-12.3	-22.0	29	8.8
550	30	4,891	-16.3	-26.0	29	9.6
500	30	5,601	-21.2	-31.0	29	10.8
450	30	6,371	-26.6	-35.7	28	12.2
400	30	7,210	-33.0	-42.2	28	13.7
350	30	8,138	-40.4	-47.8	28	15.6
300	30	9,169	-48.2		28	18.3
250	30	10,352	-54.7		28	19.4
200	30	11,763	-57.0		27	20.0
175	30	12,600	-58.8		27	17.9
150	30	13,574	-56.5		28	15.4
125	30	14,732	-56.6		27	13.6
100	30	16,145	-57.2		28	11.9
80	30	17,555	-57.7		28	7.9
70	30	18,396	-58.3		28	5.9
60	30	19,367	-58.1		28	5.0
50	30	20,518	-57.5		28	2.4
40	30	21,930	-56.7		27	1.0
30	29	23,755	-55.9		22	.6
25	28	24,916	-55.1		25	.5
20	26	26,335	-53.9		24	.9
15	25	28,190	-52.1		23	3.3
10	17	30,849	-46.8		26	6.8
7	5	33,272	-41.6			

• ST PAUL ISLAND, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	10	-3.3	-5.9	36	2.1
1000	25	116	-4.1	-6.5	33	3.2
950	30	494	-6.3	-8.7	34	2.2
900	30	915	-8.2	-12.2	32	2.4
850	30	1,358	-10.0	-15.5	31	2.6
800	30	1,824	-11.4	-18.1	30	3.3
750	30	2,318	-13.2	-22.1	30	4.1
700	30	2,840	-15.7	-25.1	30	5.1
650	30	3,396	-19.0	-27.8	30	5.2
600	30	3,988	-22.5	-31.9	30	6.1
550	30	4,621	-26.5	-35.3	29	6.4
500	30	5,304	-30.8	-39.0	29	7.3
450	30	6,044	-35.7	-41.9	29	8.5
400	30	6,854	-41.0	-45.7	29	8.[illegible]
350	30	7,755	-46.9		29	10.9
300	30	8,765	-50.6		28	10.1
250	30	9,948	-52.3		27	10.4
200	30	11,396	-50.6		26	9.8
175	30	12,268	-50.1		26	9.4
150	30	13,275	-50.4		25	8.8
125	30	14,463	-51.0		26	8.1
100	30	15,917	-50.5		24	6.[illegible]
80	30	17,369	-51.3		24	5.2
70	30	18,237	-51.4		23	4.5
60	30	19,238	-51.7		23	3.6
50	29	20,417	-51.7		22	2.8
40	29	21,863	-52.2		20	2.8
30	27	23,719	-52.7		17	1.5
25	24	24,592	-52.9		16	1.3
20	24	26,331	-53.1		13	.8
15	20	28,157	-52.9		08	1.6
10	15	30,807	-49.2		04	2.7
7						

SALEM, IL
996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	174	10.9	7.4	18	1.1
1000	9	202	11.0	3.8		
950	30	575	13.3	3.2	24	4.6
900	30	1,028	11.1	.9	25	6.1
850	30	1,503	8.5	-2.1	26	7.0
800	30	2,002	5.3	-5.0	27	7.8
750	30	2,526	1.8	-8.6	27	7.8
700	30	3,078	-1.9	-12.[illegible]	27	7.5
650	30	3,664	-5.3	-17.4	27	8.3
600	30	4,288	-9.0	-22.1	27	10.0
550	30	4,957	-13.2	-26.6	27	11.4
500	30	5,676	-17.9	-31.4	27	12.3
450	30	6,455	-23.5	-35.2	27	13.1
400	30	7,306	-29.7	-40.6	27	13.8
350	30	8,248	-36.6	-45.2	27	15.9
300	30	9,295	-44.5		27	18.2
250	30	10,493	-53.1		27	20.0
200	30	11,910	-59.1		27	16.2
175	30	12,746	-60.0		28	17.4
150	30	13,709	-58.5		28	15.8
125	30	14,856	-58.7		27	14.6
100	30	16,253	-60.2		28	11.9
80	30	17,639	-61.3		28	8.5
70	30	18,469	-60.3		29	6.2
60	30	19,432	-59.8		28	4.6
50	30	20,576	-58.1		28	3.8
40	29	21,984	-57.3		27	2.3
30	29	23,813	-56.7		26	2.3
25	29	24,981	-54.0		26	2.9
20	28	26,473	-51.9		26	4.3
15	27	28,301	-48.6		26	7.9
10	21	30,988	-43.6		26	11.8
7						

RAWINSONDE DATA

Average monthly values

APRIL 1977

SALEM, OR
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	61	5.5	2.6	22	1.0
1000	30	170	8.0	4.6	25	.9
950	30	534	7.1	1.7	31	.9
900	30	1,037	5.2	-1.2	26	1.2
850	30	1,502	3.4	-5.7	25	2.6
800	30	1,942	1.3	-10.9	25	3.6
750	30	2,509	-1.5	-14.2	26	4.1
700	30	3,056	-4.5	-16.9	26	5.3
650	30	3,636	-7.9	-19.2	26	6.0
600	30	4,253	-11.9	-22.6	26	7.0
550	30	4,914	-16.3	-27.0	25	7.7
500	30	5,624	-21.3	-32.2	25	8.9
450	30	6,393	-26.7	-36.6	26	10.3
400	30	7,233	-33.0	-41.3	26	11.3
350	30	8,161	-40.1	-46.1	26	12.0
300	30	9,192	-48.3		26	13.7
250	30	10,371	-55.9		25	16.9
200	30	11,777	-59.4		25	14.3
175	30	12,615	-58.0		25	12.7
150	30	13,589	-57.4		25	12.0
125	29	14,735	-57.9		25	10.5
100	29	16,142	-57.8		25	7.8
80	29	17,552	-57.1		26	5.3
70	29	18,398	-56.7		26	4.6
60	29	19,375	-56.8		27	3.3
50	29	20,529	-57.5		28	2.3
40	28	21,939	-57.5		32	1.3
30	27	23,757	-57.2		36	1.8
25	25	24,922	-56.2		36	1.8
20	24	26,345	-55.0		35	2.1
15	22	28,196	-52.8		34	2.9
10	10	30,842	-47.2			
7						

SALT LAKE CITY, UT
871 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,288	7.2	-2.5	14	2.2
1000						
950						
900						
850	30	1,494	9.6	-4.7	16	2.7
800	30	1,995	7.2	-7.6	19	2.4
750	30	2,523	3.4	-10.6	23	2.1
700	30	3,077	-.9	-13.2	26	2.4
650	30	3,664	-5.3	-16.6	26	3.5
600	30	4,287	-10.2	-20.0	26	4.2
550	30	4,951	-15.2	-24.7	26	4.3
500	30	5,664	-20.5	-30.5	27	5.0
450	30	6,436	-25.9	-34.4	26	5.7
400	30	7,278	-32.4	-41.8	26	7.0
350	30	8,208	-39.4	-46.4	26	7.4
300	30	9,243	-47.3		26	8.4
250	30	10,429	-54.7		27	9.9
200	30	11,835	-60.4		27	11.1
175	30	12,668	-59.8		27	11.2
150	30	13,634	-59.1		27	10.2
125	30	14,777	-59.5		26	9.3
100	29	16,172	-59.9		26	8.7
80	29	17,567	-59.5		26	6.4
70	29	18,403	-59.7		27	5.5
60	29	19,366	-60.1		27	4.3
50	28	20,505	-59.4		28	3.3
40	28	21,904	-59.0		29	3.0
30	24	23,718	-57.6		30	3.0
25	24	24,873	-56.4		31	2.9
20	24	26,297	-54.0		30	3.1
15	23	28,156	-51.4		29	4.4
10	21	30,847	-45.3		28	7.2
7	7	33,254	-40.2			

SAN DIEGO, CA
1001 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	124	12.1	9.7	15	.4
1000	20	146	12.3	8.2	06	.2
950	30	562	11.9	4.0	32	.4
900	30	1,015	12.1	-2.8	31	1.9
850	30	1,493	11.3	-7.5	31	2.5
800	30	1,997	8.8	-11.7	31	2.0
750	30	2,527	5.8	-14.6	29	1.5
700	30	3,088	2.5	-18.0	29	3.0
650	30	3,683	-.9	-20.8	31	3.5
600	30	4,317	-5.1	-24.6	30	5.3
550	30	4,994	-10.2	-28.2	30	6.4
500	30	5,720	-15.8	-33.0	30	8.3
450	30	6,505	-21.8	-37.6	30	8.6
400	30	7,361	-28.7	-43.5	29	10.1
350	29	8,303	-36.4	-49.5	29	11.8
300	29	9,351	-44.5		29	13.9
250	29	10,550	-52.8		28	16.7
200	29	11,966	-59.9		27	19.5
175	29	12,798	-60.4		27	20.9
150	29	13,759	-60.0		27	20.7
125	29	14,895	-61.3		26	19.8
100	29	16,275	-62.5		26	15.0
80	29	17,653	-62.1		26	8.8
70	29	18,480	-61.7		26	7.6
60	29	19,435	-61.4		26	4.6
50	29	20,570	-60.2		26	2.7
40	29	21,967	-58.5		28	4.0
30	29	23,785	-56.3		28	3.7
25	28	24,950	-54.7		27	4.8
20	28	26,387	-52.1		27	6.8
15	27	28,264	-49.1		27	[illegible]
10	23	30,953	-43.9		27	14.0
7	6	33,340	-40.2			

SAN JUAN, P. R.
1017 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	6	23.1	20.0	10	3.2
1000	30	147	22.4	18.3	10	4.9
950	30	592	19.6	15.9	11	7.8
900	30	1,056	16.4	12.6	10	7.5
850	30	1,541	13.3	9.5	10	6.6
800	30	2,049	10.8	4.2	10	5.3
750	30	2,586	8.8	-2.7	09	3.9
700	30	3,155	7.4	-10.1	08	2.3
650	30	3,762	4.7	-13.5	05	1.1
600	30	4,410	1.1	-16.8	30	1.4
550	30	5,105	-3.1	-20.6	28	3.2
500	30	5,852	-7.9	-25.4	28	4.8
450	30	6,663	-13.1	-29.5	29	6.9
400	30	7,550	-19.1	-35.0	30	8.8
350	30	8,532	-26.4	-41.5	29	11.4
300	30	9,624	-35.0	-48.5	29	16.1
250	30	10,872	-44.2		28	21.3
200	30	12,337	-53.7		28	24.6
175	30	13,185	-58.8		27	23.4
150	30	14,140	-64.6		28	23.0
125	30	15,239	-69.9		29	19.5
100	30	16,552	-74.6		29	13.4
80	30	17,842	-76.7		28	5.9
70	30	18,615	-74.2		28	2.6
60	30	19,526	-68.8		06	1.2
50	30	20,636	-61.7		09	4.1
40	30	22,031	-57.6		09	7.6
30	30	23,868	-53.3		10	12.5
25	28	25,045	-50.9		11	12.9
20	27	26,512	-47.3		11	14.8
15	25	28,432	-43.8		11	10.5
10	14	31,198	-39.2		10	6.7
7						

* SAULT STE MARIE, MI
990 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	221	.6	-2.7	06	.8
1000						
950	30	537	3.6	-3.9	17	.5
900	30	996	2.8	-6.1	29	1.9
850	30	1,457	.7	-9.2	29	3.8
800	30	1,942	-1.5	-11.0	29	5.9
750	30	2,453	-4.1	-13.0	29	7.9
700	30	2,995	-7.0	-15.4	29	9.4
650	30	3,570	-10.1	-19.1	29	10.8
600	30	4,183	-13.7	-22.1	29	12.6
550	30	4,840	-17.5	-27.9	29	13.7
500	30	5,547	-22.2	-32.9	29	15.2
450	30	6,313	-27.5	-37.3	29	16.7
400	30	7,150	-33.7	-41.3	29	18.9
350	30	8,076	-40.6	-46.2	29	19.1
300	30	9,107	-47.3		28	21.9
250	29	10,292	-53.3		28	23.4
200	29	11,717	-56.5		28	23.4
175	29	12,566	-55.5		28	20.7
150	29	13,551	-54.5		28	17.5
125	29	14,719	-54.5		28	14.7
100	29	16,146	-55.2		28	12.3
80	29	17,369	-55.7		28	7.8
70	29	18,419	-56.0		28	6.4
60	29	19,400	-55.9		28	4.6
50	29	20,561	-55.6		28	3.1
40	29	21,984	-55.5		26	1.5
30	27	23,816	-54.6		21	.8
25	27	24,985	-53.8		18	.9
20	24	26,427	-52.8		14	.5
15	23	28,285	-51.0		22	1.2
10	19	30,949	-46.5		[illegible]	4.7
7	8	33,237	-44.8			

SPOKANE, WA
933 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	720	5.2	-2.6	15	1.6
1000						
950						
900	30	1,018	8.5	-4.1	21	2.0
850	30	1,489	6.2	-6.8	23	3.5
800	30	1,982	2.6	-9.0	24	4.1
750	30	2,500	-1.4	-11.8	24	5.2
700	30	3,046	-5.3	-15.1	25	5.8
650	30	3,624	-9.0	-19.0	25	6.8
600	30	4,239	-12.6	-24.2	25	7.9
550	30	4,897	-17.1	-28.9	26	9.3
500	30	5,605	-22.2	-32.4	26	10.1
450	30	6,371	-27.6	-36.3	27	10.3
400	30	7,208	-33.8	-41.4	27	11.7
350	30	8,134	-40.8	-46.7	27	12.6
300	30	9,164	-48.8		27	14.6
250	30	10,343	-55.7		27	14.4
200	30	11,751	-58.6		26	12.3
175	30	12,591	-58.0		26	11.3
150	30	13,565	-57.1		27	10.1
125	30	14,720	-56.8		27	8.6
100	30	16,132	-57.3		27	7.1
80	30	17,545	-57.2		26	4.8
70	30	18,391	-56.5		27	4.2
60	30	19,369	-56.8		28	3.9
50	30	20,523	-57.3		31	2.3
40	30	21,933	-57.8		33	2.4
30	29	23,751	-57.0		36	2.1
25	28	24,911	-56.5		01	2.3
20	28	26,331	-54.9		34	2.4
15	24	28,184	-53.0		35	3.0
10	19	30,852	-47.2		29	2.4
7	8	33,280	-41.1			

TAMPA BAY, FL
1019 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	13	15.4	13.9	08	1.2
1000	30	171	18.8	13.5	10	3.2
950	30	611	17.1	9.0	12	4.1
900	30	1,070	14.3	4.8	12	2.7
850	30	1,550	11.8	.7	14	1.9
800	30	2,056	9.3	-5.0	14	1.2
750	30	2,588	6.8	-10.4	18	.8
700	30	3,152	4.2	-15.1	23	2.0
650	30	3,751	1.1	-17.1	24	3.0
600	30	4,391	-2.5	-21.2	26	4.6
550	30	5,075	-7.0	-24.7	26	5.8
500	30	5,811	-12.2	-28.6	26	7.5
450	30	6,608	-17.8	-33.4	27	9.8
400	30	7,478	-24.5	-39.2	27	11.9
350	30	8,439	-31.5	-44.4	27	15.2
300	30	9,509	-39.5	-49.2	27	18.3
250	30	10,732	-48.6		27	23.0
200	30	12,170	-57.0		27	26.8
175	30	13,010	-60.1		27	27.1
150	30	13,966	-62.4		27	24.5
125	30	15,084	-65.3		26	22.7
100	30	16,430	-68.7		27	16.8
80	30	17,762	-69.6		26	10.8
70	30	18,560	-68.6		26	6.2
60	30	19,490	-65.8		26	4.3
50	30	20,611	-60.9		27	2.0
40	30	22,013	-57.0		36	1.5
30	29	23,850	-53.5		06	1.8
25	29	25,029	-51.2		02	1.8
20	29	26,489	-48.9		34	1.2
15	29	28,390	-46.2		25	3.8
10	24	31,110	-41.1		26	12.8
7	8	33,546	-36.3			

TOPEKA, KS
984 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	268	10.9	7.2	20	.8
1000						
950	30	567	13.0	4.7	23	4.9
900	30	1,021	11.4	2.3	24	5.8
850	30	1,496	8.9	-1.0	24	6.1
800	30	1,996	6.0	-2.7	25	6.5
750	30	2,522	2.9	-6.8	25	6.0
700	30	3,077	-.8	-11.0	26	6.1
650	30	3,665	-4.5	-15.2	27	7.8
600	30	4,290	-8.9	-18.4	27	8.2
550	30	4,959	-13.2	-23.1	27	9.3
500	30	5,678	-18.1	-30.8	26	9.2
450	30	6,458	-23.4	-36.1	25	11.3
400	30	7,309	-29.8	-41.8	24	12.4
350	30	8,250	-36.6	-47.6	24	11.2
300	30	9,297	-44.9		25	14.1
250	30	10,492	-53.7		25	16.9
200	30	11,903	-60.2		25	16.5
175	30	12,735	-60.1		26	13.8
150	30	13,701	-58.6		27	10.5
125	30	14,848	-58.8		27	11.2
100	30	16,245	-60.0		28	8.8
80	29	17,634	-60.5		28	6.7
70	29	18,466	-60.3		29	5.5
60	29	19,426	-60.1		30	3.8
50	29	20,567	-58.8		28	3.4
40	29	21,974	-57.3		31	1.8
30	28	23,801	-56.0		27	2.4
25	27	24,966	-54.5		27	3.1
20	26	26,402	-52.2		26	3.8
15	26	28,274	-49.8		27	5.8
10	23	30,942	-44.3		26	8.8
7	7	33,399	-38.7			

TRUK, CAROLINE IS.
* 1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	2	28.1	24.2	05	4.8
1000	30	94	27.0	23.0	05	6.5
950	30	547	23.6	21.0	06	8.1
900	30	1,020	20.8	17.4	06	8.1
850	30	1,513	18.0	14.3	07	6.1
800	30	2,032	16.0	9.4	07	4.7
750	30	2,579	13.8	4.4	07	3.3
700	30	3,158	10.6	.8	07	2.1
650	30	3,772	7.3	-3.5	09	1.4
600	30	4,428	3.8	-7.8	05	.7
550	30	5,130	.1	-10.8	23	.6
500	30	5,888	-4.0	-16.1	19	1.0
450	30	6,713	-8.4	-20.7	16	.5
400	30	7,618	-13.9	-27.3	21	1.1
350	30	8,623	-20.6	-34.5	26	1.4
300	30	9,741	-29.2	-42.8	21	2.0
250	30	11,017	-39.5	-51.9	19	4.0
200	30	12,503	-51.9		20	6.7
175	30	13,355	-58.9		21	6.3
150	30	14,305	-66.7		25	4.6
125	30	15,385	-74.9		29	4.7
100	30	16,657	-81.0		01	2.6
80	30	17,910	-80.3		06	3.5
70	30	18,674	-75.8		05	2.2
60	29	19,578	-69.1		07	1.9
50	28	20,686	-63.8		08	9.8
40	27	22,068	-60.6		08	21.0
30	27	23,883	-54.9		08	26.5
25	27	25,059	-51.0		08	28.4
20	27	26,525	-46.7		08	30.3
15	25	28,451	-41.1		08	27.1
10	9	31,220	-35.6			
7						

* TUCSON, AZ
924 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	789	13.0	-1.3	14	2.6
1000						
950						
900	30	1,010	16.5	-2.0	14	2.4
850	30	1,494	13.8	-4.6	16	1.0
800	30	2,001	10.1	-7.4	18	.9
750	30	2,533	5.7	-10.0	21	2.1
700	30	3,093	1.5	-13.8	21	3.9
650	30	3,685	-2.5	-17.5	22	4.9
600	30	4,315	-6.9	-21.9	23	6.4
550	30	4,988	-11.2	-27.5	25	7.4
500	30	5,713	-16.4	-31.2	26	8.5
450	30	6,496	-22.2	-36.3	26	10.0
400	30	7,350	-28.9	-41.7	26	12.3
350	28	8,298	-35.7	-47.6	26	14.6
300	28	9,349	-43.7		26	17.3
250	28	10,553	-51.5		26	21.7
200	28	11,979	-57.8		26	24.3
175	27	12,823	-58.4		26	24.9
150	27	13,791	-58.9		26	22.1
125	26	14,925	-61.0		26	19.7
100	25	16,302	-63.2		26	15.2
80	25	17,676	-63.2		26	11.2
70	24	18,496	-62.5		26	7.3
60	23	19,450	-62.3		26	6.7
50	21	20,582	-60.3		28	2.8
40	21	21,979	-58.3		29	3.5
30	20	23,802	-55.4		[illegible]	4.1
25	20	24,971	-53.4		26	5.6
20	20	26,413	-51.5		27	7.2
15	17	28,293	-48.5		27	8.8
10	16	30,995	-42.6		28	14.5
7	5	33,460	-38.1			

* VANDENBERG AFB, CA
1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	8.4	6.3	01	.7
1000	29	144	8.7	5.4	36	1.3
950	30	570	12.8	-1.7	36	4.6
900	30	1,024	12.9	-5.9	36	4.1
850	30	1,502	10.7	-9.6	36	3.3
800	30	2,004	7.8	-12.5	34	2.6
750	30	2,533	5.3	-15.4	32	3.6
700	30	3,034	2.4	-18.2	31	3.6
650	30	3,689	-1.3	-21.0	31	4.7
600	30	4,322	-5.5	-23.6	30	5.6
550	30	4,998	-10.3	-27.6	30	6.8
500	30	5,724	-15.9	-32.4	31	7.8
450	30	6,509	-22.0	-37.5	30	8.2
400	30	7,364	-28.8	-41.5	30	9.4
350	30	8,307	-36.5	-49.1	30	10.6
300	30	9,353	-45.2		30	11.7
250	30	10,545	-54.5		30	13.4
200	30	11,947	-62.0		28	15.5
175	30	12,772	-62.0		28	16.0
150	30	13,730	-60.8		27	16.7
125	30	14,864	-61.1		27	15.3
100	29	16,244	-61.7		26	11.9
80	28	17,624	-61.1		26	9.3
70	27	18,454	-60.4		26	6.4
60	26	19,412	-60.3		26	5.3
50	25	20,549	-60.2		26	3.4
40	25	21,948	-58.6		27	3.2
30	25	23,763	-57.1		29	4.7
25	24	24,924	-55.4		28	4.5
20	23	26,355	-53.0		29	6.0
15	15	28,221	-49.9		27	5.2
10	17	30,911	-43.7		27	12.0
7	11	33,316	-40.4			

VICTORIA, TX
1012 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	20	33	15.9	14.2	08	1.1
1000	30	138	18.7	14.5	12	2.0
950	30	578	17.1	10.6	15	4.2
900	30	1,039	15.1	6.1	16	4.2
850	30	1,521	12.2	1.6	18	4.4
800	30	2,027	10.0	-3.6	20	4.2
750	30	2,560	6.7	-7.7	22	4.2
700	30	3,123	3.4	-11.6	25	3.8
650	30	3,721	-.1	-15.6	26	4.8
600	30	4,357	-3.7	-19.8	26	6.4
550	30	5,038	-8.3	-23.5	25	8.1
500	30	5,771	-13.2	-27.5	25	10.4
450	29	6,567	-18.9	-33.7	26	13.5
400	29	7,433	-25.4	-39.4	26	15.6
350	29	8,391	-32.5	-45.2	26	18.6
300	29	9,457	-40.7	-52.1	26	24.6
250	29	10,673	-50.3		26	28.4
200	29	12,099	-59.1		27	29.9
175	29	12,932	-60.7		26	27.9
150	29	13,890	-61.6		25	27.6
125	29	15,014	-64.0		26	23.3
100	29	16,369	-67.7		26	17.2
80	29	17,709	-68.2		26	11.4
70	29	18,514	-66.7		26	8.2
60	29	19,451	-64.5		26	4.6
50	28	20,575	-60.7		29	2.7
40	28	21,974	-57.6		33	1.1
30	28	23,810	-53.5		31	1.6
25	28	24,987	-52.3		27	2.0
20	28	26,438	-50.1		28	3.7
15	28	28,328	-47.4		27	7.6
10	27	31,050	-41.3		27	12.6
7	7	33,474	-36.2			

* WAKE IS., PACIFIC AREA
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	5	25.0	21.7	06	7.9
1000	30	147	23.7	20.0	07	8.9
950	30	594	20.0	17.5	08	9.8
900	30	1,058	16.8	13.6	09	9.0
850	30	1,545	14.3	7.7	09	7.5
800	30	2,055	12.1	3.3	09	8.7
750	30	2,594	10.0	-3.0	08	6.3
700	30	3,165	7.1	-7.5	08	4.7
650	30	3,771	4.5	-13.9	08	4.0
600	30	4,419	1.3	-18.1	07	5.0
550	30	5,114	-2.6	-22.1	06	3.0
500	30	5,863	-7.6	-26.7	03	2.0
450	30	6,675	-13.1	-31.3	35	2.8
400	30	7,560	-20.1	-36.8	30	4.5
350	30	8,539	-26.9	-42.1	29	7.9
300	30	9,630	-34.8	-48.2	28	14.6
250	30	10,879	-43.6		27	22.6
200	30	12,347	-54.0		27	27.8
175	30	13,192	-59.9		27	27.8
150	30	14,141	-66.1		28	24.8
125	30	15,232	-71.5		28	19.3
100	30	16,531	-76.6		28	12.8
80	30	17,809	-78.0		31	4.8
70	29	18,579	-75.6		35	1.6
60	29	19,484	-69.5		07	3.3
50	29	20,593	-63.0		09	4.4
40	29	21,979	-59.3		10	7.5
30	29	23,800	-55.2		09	11.7
25	29	24,970	-52.7		09	13.2
20	28	26,424	-48.3		08	13.5
15	27	28,333	-45.2		09	10.8
10	24	31,061	-40.5		09	7.6
7	16	33,506	-38.0		12	5.2

* WALLOPS ISLAND, VA NASA
1019 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	[illegible]	11.1	7.8	26	.7
1000	29	171	13.3	4.0	30	2.2
950	30	595	11.8	1.3	29	4.3
900	30	1,046	9.3	-1.1	28	6.5
850	30	1,518	6.7	-3.8	28	7.9
800	30	2,014	4.3	-6.7	28	9.4
750	30	2,537	1.2	-8.6	28	11.3
700	30	3,088	-2.0	-11.7	28	12.7
650	30	3,675	-5.1	-16.5	28	14.2
600	30	4,300	-8.5	-22.0	28	15.7
550	30	4,970	-12.5	-26.9	28	17.4
500	30	5,691	-17.1	-31.5	28	19.5
450	30	6,473	-22.7	-35.3	28	20.0
400	30	7,326	-28.9	-40.1	28	21.4
350	30	8,271	-35.9	-45.1	28	24.4
300	30	9,322	-43.9	-48.0	28	25.8
250	30	10,526	-52.0		28	28.1
200	30	11,947	-58.4		28	30.4
175	30	12,786	-58.5		28	29.0
150	30	13,754	-58.8		28	24.1
125	30	14,898	-59.4		27	20.9
100	30	16,290	-60.8		27	16.8
80	30	17,677	-60.8		27	10.9
70	30	18,508	-60.6		26	8.4
60	30	19,471	-59.0		27	7.7
50	30	20,618	-57.4		27	3.6
40	29	22,034	-56.1		26	2.1
30	29	23,870	-54.6		26	1.8
25	27	25,045	-53.4		28	1.6
20	26	26,489	-51.8		28	3.8
15	24	28,372	-48.8		28	7.0
10	16	31,068	-44.0		27	11.2
7						

WASHINGTON DULLES INT. AP
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	85	6.8	3.8	25	.8
1000	24	186	10.0	.6	28	1.5
950	30	586	9.8	-1.5	29	4.1
900	30	1,036	7.8	-3.6	29	6.8
850	30	1,503	5.4	-4.8	29	9.2
800	30	1,996	2.8	-7.1	29	10.7
750	30	2,516	.0	-10.7	29	10.9
700	30	3,066	-2.8	-15.3	28	11.1
650	29	3,650	-6.1	-20.3	28	12.2
600	29	4,272	-9.7	-22.9	28	13.6
550	29	4,938	-14.0	-26.3	28	13.4
500	29	5,656	-18.5	-31.8	28	16.7
450	29	6,434	-24.0	-35.3	28	18.0
400	29	7,283	-30.4	-39.9	28	20.0
350	29	8,221	-37.2	-43.9	28	20.9
300	29	9,267	-44.8		28	21.7
250	29	10,465	-52.9		28	24.9
200	29	11,882	-58.7		28	25.7
175	29	12,719	-59.4		28	23.0
150	29	13,685	-58.9		28	20.0
125	29	14,829	-59.3		27	15.6
100	29	16,222	-60.9		27	13.4
80	29	17,610	-60.8		28	10.6
70	28	18,442	-60.4		27	8.3
60	27	19,407	-59.3		27	5.5
50	26	20,553	-58.1		27	6.7
40	26	21,965	-56.5		26	2.4
30	25	23,795	-55.5		27	2.2
25	24	24,961	-54.4		28	2.8
20	23	26,389	-52.8		27	2.9
15	20	28,273	-49.8		27	5.4
10	13	30,974	-44.0			
7						

RAWINSONDE DATA

Average monthly values

WAYCROSS, GA
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	44	12.8	11.2	23	.5
1000	30	119	16.8	11.6	26	.9
950	30	567	16.1	5.3	25	2.2
900	30	1,055	14.0	1.6	23	2.0
850	30	1,545	10.9	-.6	21	1.4
800	30	2,048	8.3	-4.8	23	1.5
750	30	2,578	5.0	-7.8	24	2.6
700	30	3,138	1.8	-13.6	24	3.5
650	30	3,732	-1.1	-18.2	26	4.9
600	30	4,367	-4.2	-22.6	26	7.0
550	30	5,047	-8.8	-25.3	26	9.0
500	30	5,778	-14.2	-30.3	26	10.0
450	30	6,569	-19.7	-34.7	26	11.6
400	30	7,432	-26.3	-39.9	26	11.5
350	30	8,387	-33.2	-45.6	26	13.3
300	30	9,449	-41.5	-49.1	27	15.0
250	30	10,642	-50.5		27	19.0
200	30	12,091	-57.7		27	23.1
175	30	12,929	-59.8		27	25.0
150	30	13,890	-61.2		27	23.5
125	30	15,018	-62.6		27	21.2
100	30	16,313	-65.7		27	17.0
80	30	17,736	-65.9		27	11.6
70	30	18,548	-65.1		27	8.3
60	30	19,491	-63.3		27	5.9
50	30	20,622	-59.6		27	2.9
40	30	22,030	-56.4		33	2.0
30	29	23,867	-53.0		31	1.6
25	29	25,047	-51.3		31	2.0
20	29	26,534	-49.1		27	5.9
15	29	28,403	-46.7		27	8.0
10	21	31,121	-41.1		26	14.8
7	8	33,538	-35.6			

WEST PALM BEACH, FL
1019 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	7	19.9	14.9	08	2.4
1000	30	169	20.8	14.8	09	3.5
950	30	611	17.1	12.8	10	4.7
900	30	1,071	14.2	7.4	10	3.8
850	30	1,551	11.6	1.8	11	2.0
800	30	2,057	9.8	-4.3	13	1.4
750	30	2,591	7.3	-8.7	21	1.5
700	30	3,156	4.9	-13.4	24	2.3
650	30	3,757	1.7	-14.1	26	3.0
600	30	4,397	-2.1	-19.8	26	4.5
550	30	5,083	-6.6	-24.[illegible]	27	5.7
500	30	5,820	-11.6	-28.7	27	7.4
450	30	6,619	-17.0	-32.9	27	10.1
400	30	7,492	-23.5	-37.6	27	12.5
350	30	8,458	-30.3	-44.7	27	16.3
300	30	9,533	-39.6	-50.9	27	19.5
250	30	10,761	-47.8		27	23.2
200	30	12,204	-56.2		27	27.1
175	30	13,046	-59.7		27	26.9
150	30	14,003	-62.3		27	26.9
125	30	15,121	-65.6		26	23.1
100	30	16,467	-68.8		26	16.6
80	30	17,798	-69.9		26	10.7
70	30	18,596	-68.3		26	6.1
60	29	19,532	-64.8		26	3.3
50	29	20,659	-59.7		28	2.0
40	29	22,067	-56.1		06	2.4
30	29	23,911	-52.6		06	2.6
25	28	25,099	-49.6		05	2.6
20	26	26,574	-46.7		05	.8
15	25	28,494	-44.6		25	2.2
10	24	31,235	-39.3		26	8.9
7	9	33,749	-33.7			

WINNEMUCCA, NV
870 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,312	2.0	-10.5	01	.4
1000						
950						
900						
850	30	1,499	8.4	-8.6	36	.6
800	30	1,998	6.2	-10.5	32	1.7
750	30	2,523	2.3	-12.9	32	2.6
700	30	3,076	-1.5	-15.6	30	2.7
650	30	3,662	-5.1	-19.0	28	3.6
600	30	4,286	-9.6	-23.3	27	4.1
550	30	4,952	-14.2	-27.2	27	5.4
500	30	5,667	-19.5	-31.6	28	6.5
450	29	6,438	-25.1	-36.7	29	7.7
400	29	7,283	-31.5	-42.1	29	8.3
350	29	8,217	-38.7	-45.9	30	10.3
300	29	9,254	-46.8		29	11.6
250	29	10,441	-54.8		27	14.0
200	28	11,843	-61.0		27	15.4
175	27	12,671	-59.9		27	12.6
150	27	13,636	-59.0		27	12.0
125	27	14,780	-59.2		26	10.5
100	27	16,179	-59.1		26	8.7
80	27	17,580	-58.3		26	7.3
70	27	18,421	-58.3		26	5.9
60	26	19,390	-58.8		27	4.0
50	26	20,535	-58.7		28	3.0
40	26	21,939	-58.2		29	2.2
30	26	23,755	-57.3		30	2.1
25	24	24,911	-56.3		31	2.3
20	23	26,338	-54.5		29	3.7
15	22	28,192	-51.4		27	5.9
10	[illegible]	30,844	-47.9			
7						

WINSLOW, AZ
851 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,487	4.4	-3.0	19	1.9
1000						
950						
900						
850	20	1,525	6.4	-3.6	16	1.6
800	30	2,000	9.3	-6.4	26	3.0
750	30	2,531	5.6	-9.4	26	3.3
700	30	3,091	1.3	-12.3	23	2.9
650	30	3,683	-3.2	-15.3	23	2.6
600	30	4,310	-7.9	-19.1	23	3.2
550	30	4,981	-12.5	-26.1	25	4.0
500	30	5,701	-17.9	-31.3	26	5.3
450	30	6,480	-23.5	-36.9	26	6.4
400	30	7,328	-30.6	-42.9	27	7.8
350	30	8,265	-37.9	-48.3	27	8.1
300	30	9,308	-45.3		27	10.0
250	30	10,505	-52.9		28	12.7
200	30	11,924	-58.4		27	15.4
175	30	12,763	-58.5		27	17.1
150	30	13,733	-58.6		27	16.6
125	29	14,875	-59.8		26	15.5
100	29	16,262	-61.8		26	12.1
80	28	17,644	-61.4		26	9.0
70	28	18,473	-61.3		26	6.9
60	27	19,431	-61.3		27	5.3
50	27	20,566	-60.3		28	3.9
40	25	21,964	-58.7		29	3.9
30	23	23,775	-56.7		28	4.5
25	22	24,938	-54.9		27	5.9
20	21	26,370	-53.2		27	7.4
15	19	28,235	-50.0		27	10.3
10	7	30,993	-42.2			
7						

YAKUTAT, AK
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	12	2.4	1.2	09	2.0
1000	26	115	3.1	.5	11	2.4
950	30	507	1.1	-1.8	14	4.6
900	30	940	-1.7	-4.3	15	6.5
850	30	1,393	-4.6	-7.0	16	6.4
800	30	1,869	-7.3	-11.6	18	6.3
750	30	2,369	-10.1	-16.3	19	6.7
700	30	2,898	-13.1	-20.0	20	6.9
650	30	3,459	-16.7	-23.9	21	7.6
600	30	4,056	-20.5	-27.1	21	8.8
550	30	4,695	-24.6	-31.3	22	10.2
500	30	5,382	-29.3	-36.7	22	11.3
450	29	6,120	-34.4	-39.4	23	12.6
400	29	6,934	-39.8	-43.1	23	14.2
350	29	7,838	-45.5		23	12.3
300	29	8,849	-50.9		24	13.0
250	29	10,028	-53.6		25	12.2
200	29	11,468	-52.7		25	10.1
175	29	12,330	-52.1		24	8.6
150	29	13,329	-51.6		24	9.0
125	29	14,514	-51.1		24	7.6
100	29	15,964	-51.7		24	5.4
80	28	17,417	-51.8		23	4.9
70	28	18,284	-51.6		23	3.8
60	28	19,283	-52.2		21	2.9
50	28	20,462	-52.6		21	2.8
40	28	21,901	-53.6		21	1.3
30	28	23,749	-54.2		09	1.4
25	28	24,917	-54.5		08	2.4
20	25	26,351	-54.3		10	3.3
15	22	28,236	-52.2		08	5.1
10	11	30,966	-46.3			
7						

+ YAP, CAROLINE IS.
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	14	28.7	23.6	09	5.1
1000	29	94	27.0	22.5	07	6.3
950	29	546	22.9	20.4	07	9.9
900	29	1,016	19.6	16.1	07	9.1
850	29	1,538	17.1	10.5	08	7.9
800	29	2,074	15.3	3.8	08	6.1
750	29	2,569	12.9	-1.3	08	4.9
700	29	3,146	10.2	-5.7	07	3.5
650	29	3,759	7.4	-8.4	07	2.7
600	29	4,414	4.3	-14.9	05	2.2
550	29	5,118	.4	-18.7	07	1.8
500	29	5,875	-4.3	-22.6	09	1.9
450	28	6,697	-9.1	-26.8	09	1.2
400	28	7,600	-14.2	-30.8	05	1.7
350	28	8,604	-20.6	-37.7	07	2.6
300	28	9,721	-29.7	-44.6	35	1.6
250	28	10,994	-40.1	-52.[illegible]	22	2.5
200	28	12,477	-52.4		21	4.3
175	28	13,328	-59.1		22	3.6
150	28	14,277	-66.8		27	2.7
125	28	15,358	-74.6		32	3.1
100	28	16,632	-81.3		07	4.7
80	28	17,884	-80.2		08	7.0
70	28	18,648	-76.0		07	4.9
60	28	19,551	-69.9		07	4.4
50	28	20,655	-63.8		09	9.1
40	28	22,036	-60.1		09	17.9
30	28	23,852	-55.4		09	23.9
25	27	25,024	-52.1		09	25.5
20	27	26,496	-46.9		09	27.0
15	28	28,419	-41.1		09	25.1
10	23	31,207	-35.4		10	11.5
7	18	33,710	-30.8		08	4.7
5	8	36,098	-27.9			

YUCCA FLAT, NV
880 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,198	4.7	-9.2	34	1.1
1000						
950						
900						
850	30	1,489	12.2	-7.8	35	2.4
800	30	1,994	9.1	-9.5	32	.8
750	30	2,525	5.4	-12.0	25	.7
700	30	3,084	1.3	-16.9	26	.9
650	30	3,676	-3.0	-18.[illegible]	26	1.6
600	30	4,304	-7.7	-22.3	26	2.4
550	30	4,975	-12.3	-27.[illegible]	28	4.1
500	30	5,696	-17.8	-31.8	29	4.9
450	30	6,475	-23.7	-36.0	29	6.2
400	30	7,324	-30.4	-41.[illegible]	30	7.9
350	30	8,262	-37.6	-46.6	30	9.1
300	30	9,305	-45.6		30	9.9
250	30	10,499	-53.5		29	11.7
200	30	11,910	-60.2		29	13.9
175	30	12,742	-60.2		27	14.3
150	29	13,702	-58.8		27	12.9
125	29	14,844	-59.7		27	12.1
100	28	16,233	-60.8		26	9.9
80	28	17,625	-59.8		26	7.4
70	28	18,459	-59.6		26	5.5
60	28	19,424	-59.7		26	4.6
50	28	20,564	-59.2		26	3.7
40	28	21,965	-58.4		28	3.4
30	24	23,783	-56.6		29	3.5
25	22	24,943	-55.4		28	4.9
20	22	26,374	-53.1		29	6.0
15	18	28,230	-51.0		28	8.1
10						
7						
5						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

APRIL 1977

ALBUQUERQUE, NM

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	----	----	----	----	----	1.25	1.05	.95	.77
4-----	.99	1.09	1.19	1.36	1.17	----	1.09	1.00	.86
5-----	.99	1.06	1.18	1.32	1.46	1.27	1.13	1.00	.88
6-----	.90	1.01	1.12	1.28	1.46	1.30	1.15	1.01	.90
7-----	.94	1.04	1.15	1.30	1.47	(1.20)	(.91)	(.76)	(.61)
8-----	.90	1.00	1.14	1.30	1.45	(1.12)	(.82)	(.69)	(.55)
9-----	.85	.96	1.10	1.26	1.40	(1.08)	----	----	----
11----	.91	1.01	1.12	1.30	1.49	----	----	----	----
12----	.76	.94	1.05	1.25	1.45	1.15	(.90)	(.72)	----
13----	.86	.96	1.10	----	1.37	----	----	----	----
15----	----	----	----	----	1.38	----	----	----	----
17----	.79	.87	1.04	1.22	1.38	1.24	1.10	1.01	.89
18----	.87	.96	1.08	1.23	1.39	----	----	----	----
21----	----	----	.94	1.17	1.35	1.21	1.05	.94	.84
22----	.89	.98	1.12	1.27	(1.41)	(1.27)	----	----	----
23----	----	----	1.09	1.26	(1.39)	----	----	----	----
25----	.68	.75	----	1.13	1.37	1.14	----	----	----
26----	.81	.89	1.02	1.20	1.41	1.05	----	----	----
27----	----	----	----	----	(1.33)	----	----	----	----
28----	----	----	----	----	----	1.12	----	----	----
29----	.76	.85	.99	1.12	1.38	----	----	(.79)	----
30----	.79	.89	1.03	1.21	1.41	----	----	----	----
Aver-ages	.86	.95	1.09	1.25	1.42	1.19	1.10	.99	.86

BLUE HILL OBSERVATORY, MA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
1-----	.74	.82	.94	1.08	1.15	1.02	.86	.73	.66
3-----	----	----	----	----	----	1.01	.88	.81	.67
7-----	.70	.78	.90	1.01	----	----	----	----	----
9-----	.74	.82	.91	1.08	1.17	----	----	----	----
10----	.66	.74	.86	1.01	1.14	1.00	.86	.75	.67
13----	.61	.81	.91	1.03	1.12	.95	.82	.70	.62
15----	.72	.80	.90	1.04	----	.97	.84	.72	.64
16----	.74	.82	.91	1.03	1.15	----	----	----	----
17----	----	----	----	----	1.12	.92	.80	.70	.62
18----	.68	.77	.88	1.01	1.14	.93	.73	.65	.57
19----	.70	.79	.88	1.01	1.14	.93	.80	----	----
20----	----	----	----	.90	1.06	.71	----	----	----
Aver-ages	.69	.79	.90	1.02	1.13	.94	.82	.72	.64

MADISON, WI

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
3-----	S .88	S .97	S 1.10	S 1.24	S 1.35	----	----	----	----
6-----	S .86	S .95	S 1.07	S 1.25	----	----	----	----	----
8-----	S .76	S .88	S 1.00	----	----	----	----	----	----
9-----	M .64	M .73	M .83	M .97	M 1.20	M 1.00	M .79	M .63	M .53
10----	M .70	M .81	M .96	S 1.11	S 1.25	S 1.04	M .85	M .71	M .59
15----	----	----	I .56	----	----	----	----	----	----
24----	S .78	S .90	S 1.02	S 1.20	----	----	----	----	----
26----	S .84	S .94	S 1.05	S 1.18	----	----	----	----	----
27----	M .61	M .73	M .85	M 1.02	M 1.17	----	----	----	----
29----	M .72	M .83	M .97	S 1.14	----	----	----	----	----
30----	I .56	I .66	I .81	M 1.01	M 1.22	M .94	M .79	M .62	M .51
Aver-ages	.74	.84	.93	1.12	1.24	.99	.81	.65	.54

MAUNA LOA OBSERVATORY, HA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1-----	----	----	1.40	1.50	1.62	1.40	1.23	1.11	1.00
2-----	----	1.28	1.39	1.50	----	----	----	----	----
3-----	----	----	1.35	1.47	----	----	----	----	----
4-----	----	1.15	1.27	1.42	----	----	----	----	----
5-----	----	----	1.35	1.47	----	----	----	----	----
6-----	----	----	1.38	1.50	----	1.43	1.27	1.11	.99
7-----	----	----	----	1.51	1.64	1.49	1.37	1.28	1.19
8-----	----	----	1.38	1.50	1.59	1.38	1.30	1.21	1.13
9-----	----	----	1.38	1.50	----	1.43	1.31	1.21	1.12
11----	----	----	1.35	1.48	1.62	----	----	----	----
12----	----	----	1.36	1.48	1.62	1.46	1.33	1.28	1.15
13----	----	----	1.43	1.54	1.67	1.52	1.39	1.31	1.24
14----	----	----	1.44	1.56	1.62	1.44	1.33	1.27	1.19
15----	----	----	1.45	1.56	1.68	1.55	1.40	1.27	1.16
16----	----	----	----	1.53	1.67	----	----	----	----
18----	----	----	----	1.45	1.58	1.38	----	----	----
19----	----	----	----	1.47	----	1.45	----	----	----
20----	----	----	----	1.44	----	----	----	----	----
21----	----	----	1.32	1.46	----	----	----	----	----
22----	----	1.29	1.38	1.50	----	----	----	----	----
23----	----	----	1.35	1.47	----	----	----	----	----
25----	----	1.20	1.29	1.43	----	----	----	----	----
26----	----	----	1.32	1.44	----	----	----	----	----
27----	----	----	1.35	1.47	----	----	----	----	----
28----	----	----	1.32	1.43	----	----	----	----	----
30----	----	----	1.27	1.39	----	1.39	1.28	1.15	1.07
Aver-ages	----	1.23	1.36	1.48	1.63	1.44	1.32	1.22	1.12

OMAHA, NE

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78

NO DATA RECEIVED

TUCSON, AZ

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64

NO DATA RECEIVED

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

APRIL 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	- 37	- 5	16	89	89	127	140	177	145	90	172	- 21	- 20	-181	- 97	- 69	- 55	31	119	121	60	111	178	166	155	19	153	205	185	47		73

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code as defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo cms

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

$°F. = \frac{9}{5} \times °C + 32$

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
†	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
___	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

( )	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
•	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeterminable
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

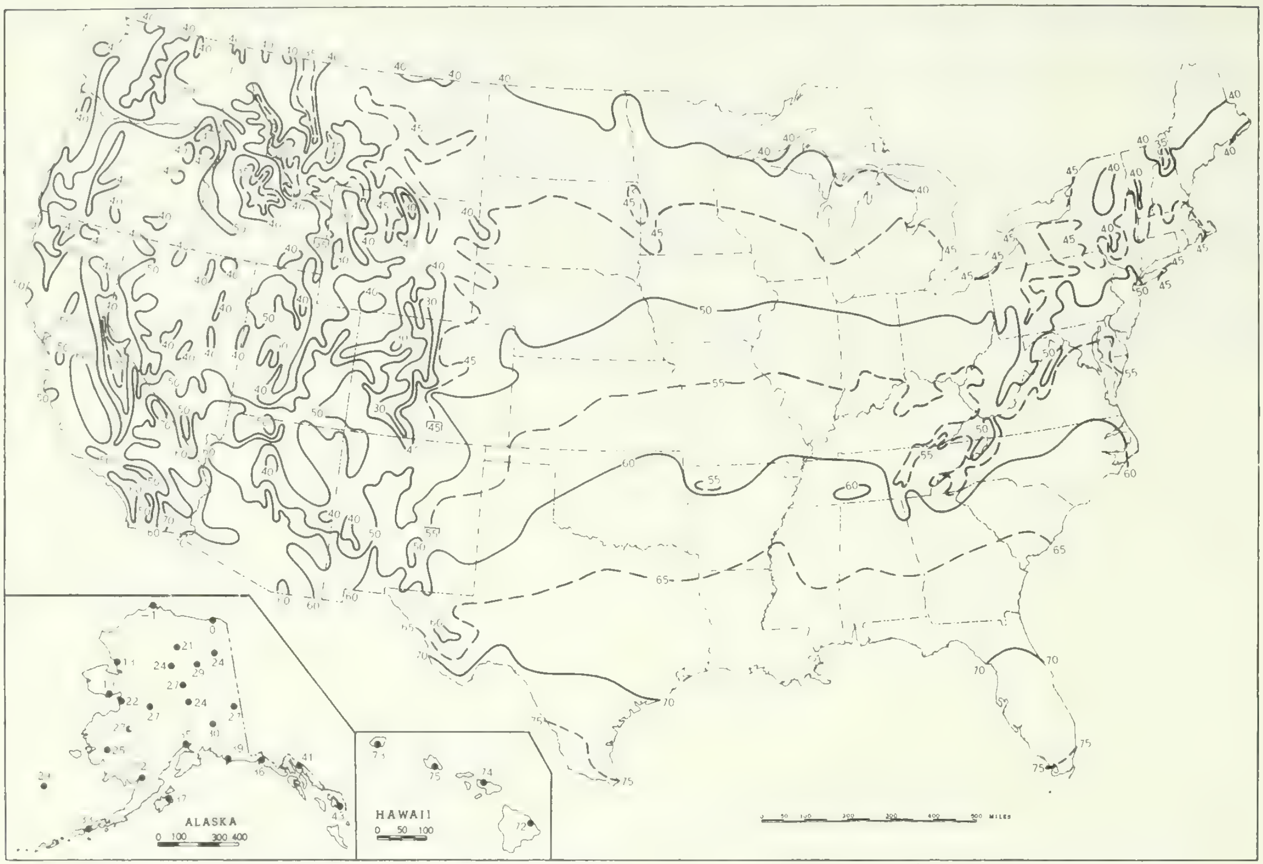
NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

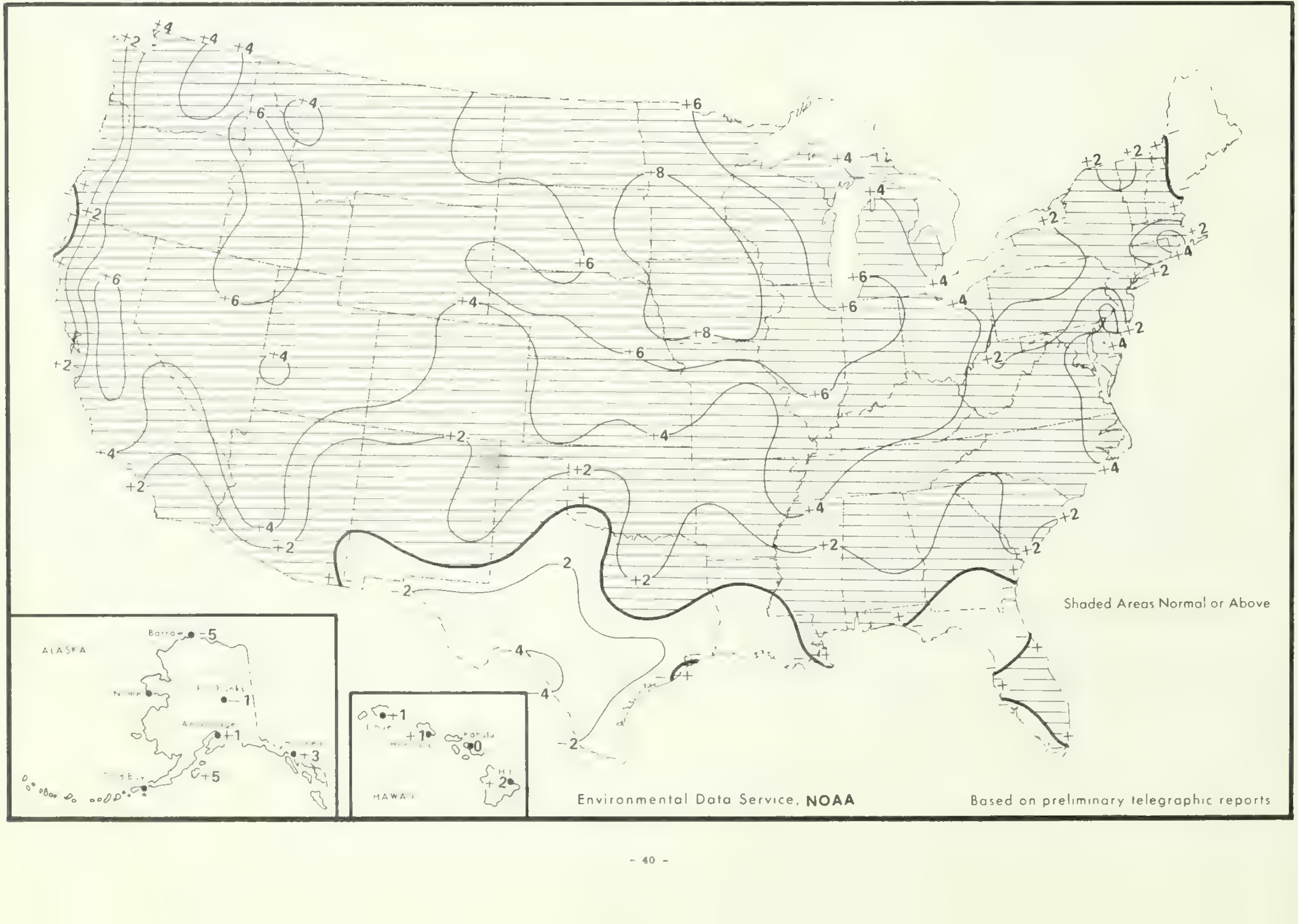
SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

TOTAL OZONE DATA: The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), April.



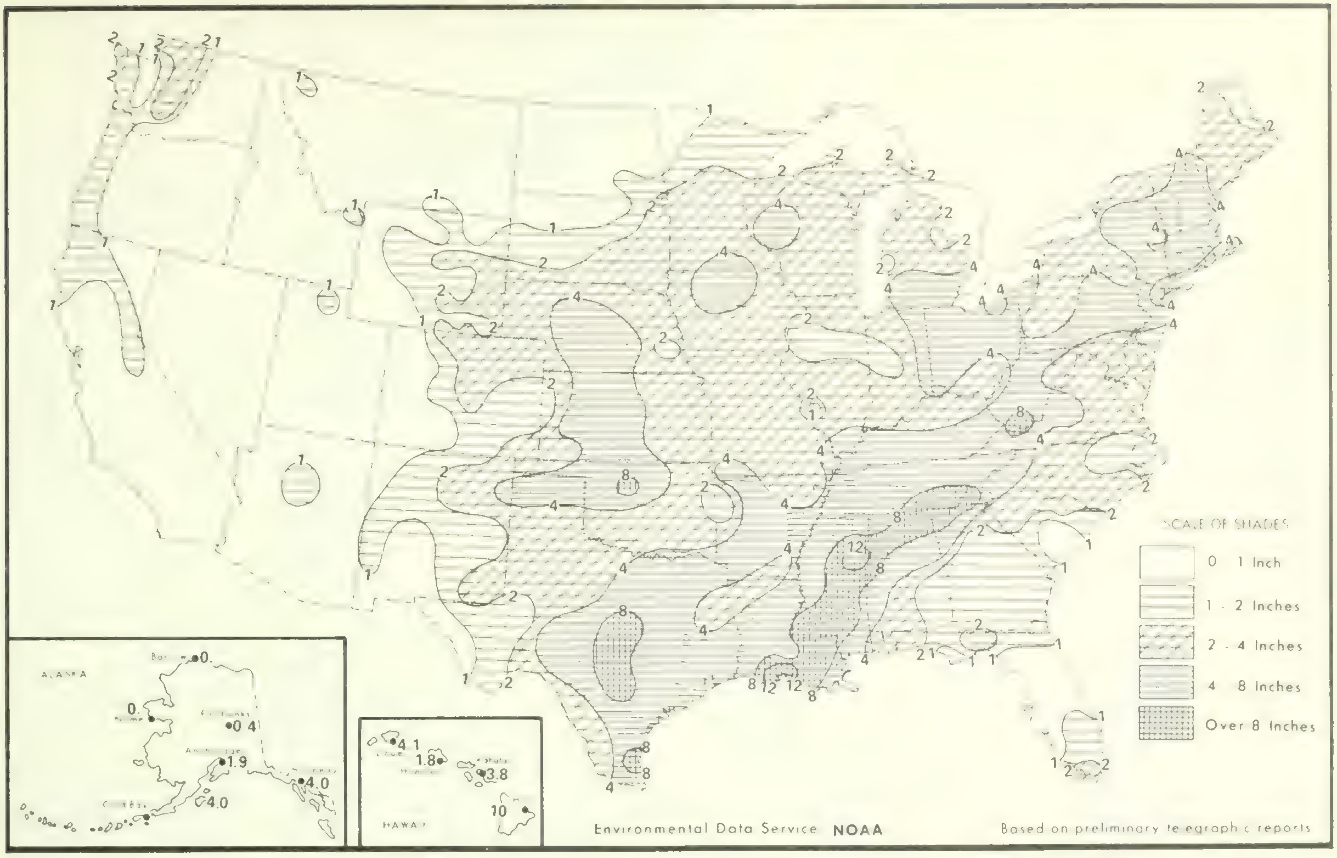
B. Temperature Departure from 30 - Year Mean (°F 1941-70), April 1977



Environmental Data Service, **NOAA**

Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), April 1977



B. Percentage of Normal Precipitation, April 1977

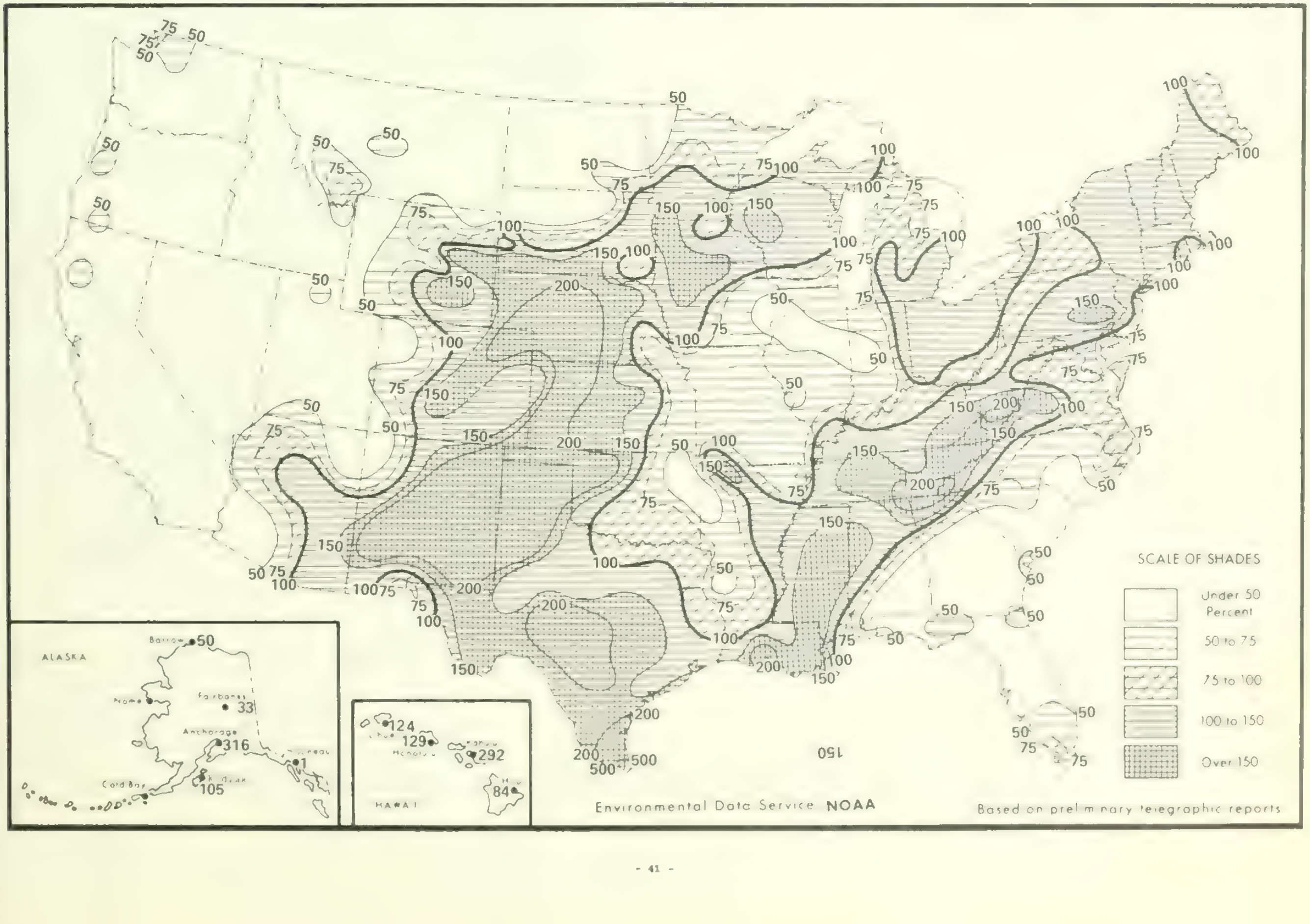
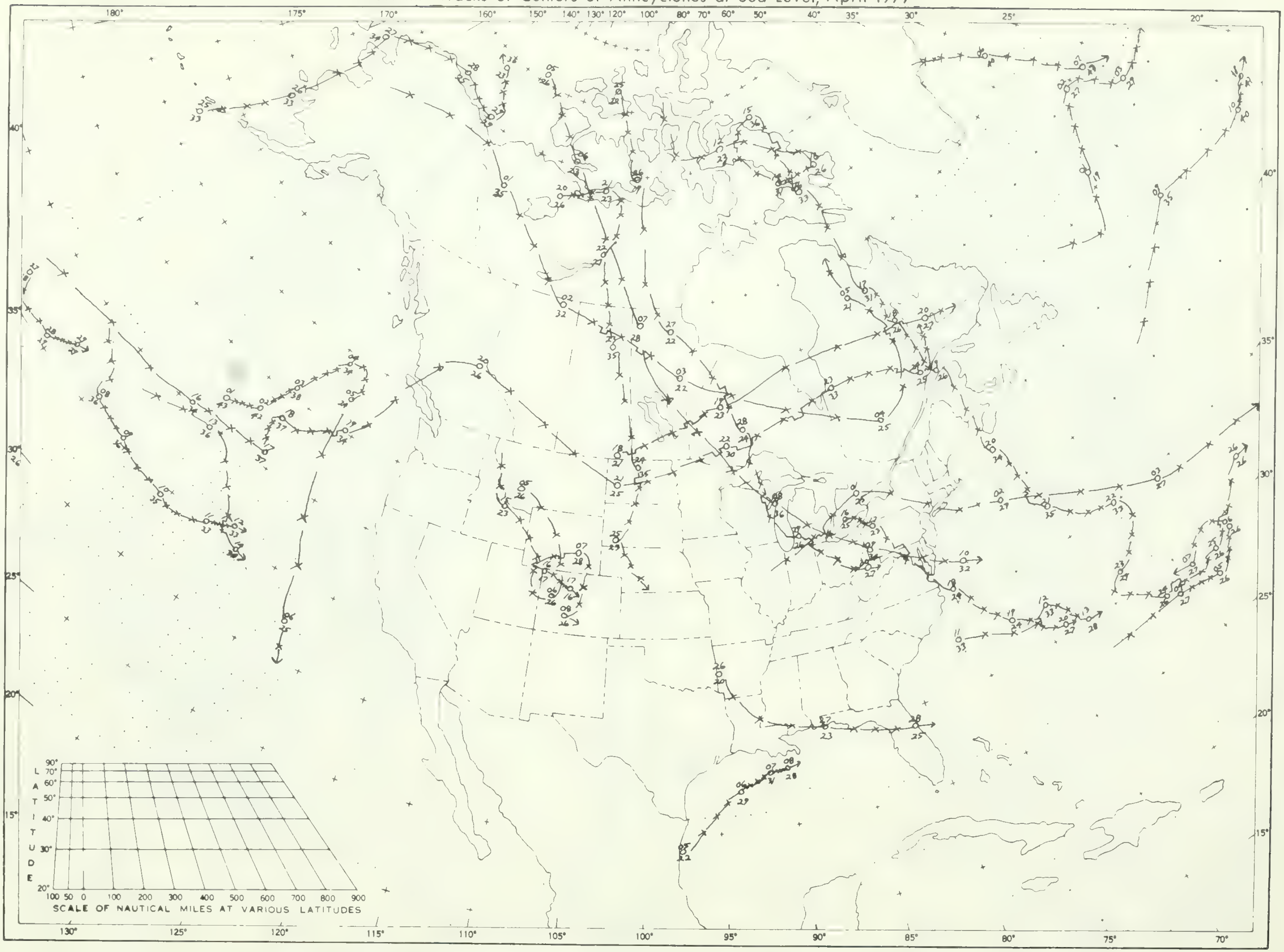
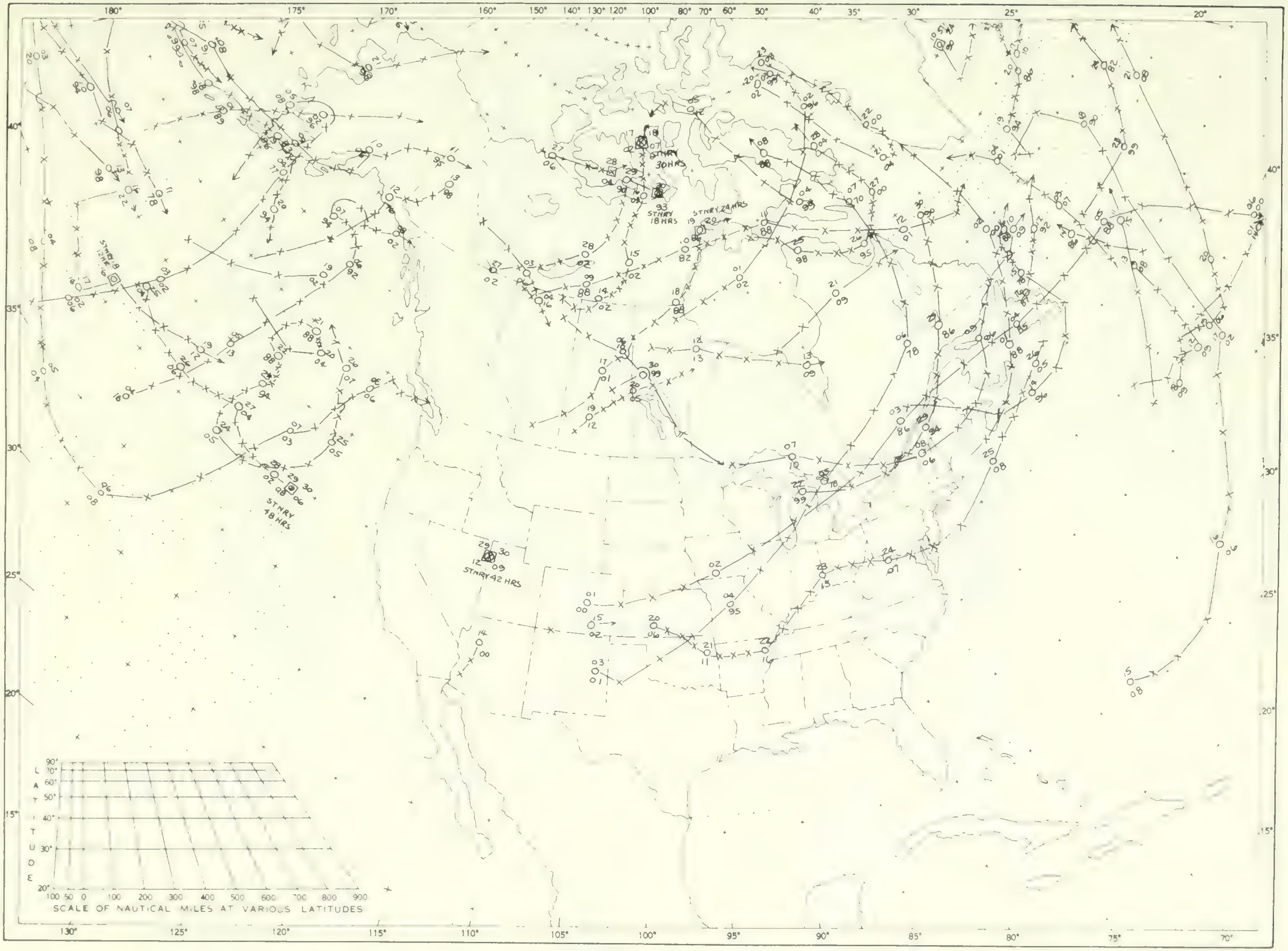


Chart III. Tracks of Centers of Anticyclones at Sea Level, April 1977



Circle indicates position of center at 7.00 a m. E S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. **X's** indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, April 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included

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MAY 1977 VOLUME 28 NUMBER 5

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

OCT 18 1977

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MAY 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: Heavier than usual rains drenched the central Great Plains and the West Coast. Above normal precipitation was recorded from the Pacific to the Rocky Mountains. Many portions of Nebraska southward to Oklahoma experienced rain between 5 and 9 inches. East of the Mississippi River, drier than normal conditions prevailed except along the southern Atlantic Coast, isolated areas of New England, and the extreme southern locales of Florida and Alabama. May weather footnotes included rain, rain, rain---a 11-hour record rainfall of 11.59 inches in Miami; memories of winter--a 10-inch snowfall in parts of the Northeast on the 10th; and twisters--30 tornadoes tore through the lower half of the Plains in one day.

Temperatures averaged lower than normal west of the Rockies, in southern and western Texas, and throughout most of Florida. The remainder of the Nation called May a warm month as the mercury climbed higher than expected. The western Great Lakes, Minnesota, and eastern North Dakota hit 10 to 12° departures above normal May temperatures. Record high readings baked Vermont, New York, Michigan, Indiana, and Illinois. It was the warmest May ever for Chicago, and Memphis sweltered through a new May record of 99° on the 30th.

Early May precipitation provided a rare 2 inches of rain to southern California. Rain slowed some fieldwork in the central States, but the first week tally sheet showed farmers equal to or ahead of last year's planting. Southern Florida was extremely hard hit by heavy rain, while the Panhandle and north central areas lacked moisture. Temperatures were 3 to 9° above normal east of the Rockies.

The second full week in May showed little or no precipitation from Missouri eastward to the Atlantic Coast and southward to the Gulf. Once again, the western United States received some rain, giving slight relief to the dryness. A spring snow dumped a blanket over parts of the Northeast while Corn Belt farmers enjoyed clear weather and planted with no interruptions.

Mid-May rains boosted winter wheat condition and growth in the Great Plains. A semi-stationary high pressure system in the Southeast held back storms which moved from the Rockies. Soil moisture was adequate only in the Plains. The Great Lakes boiled over as temperatures shot up 21° above normal.

More rain in the Plains States hampered some winter wheat harvest and row crop planting during the last week of May. Temperatures followed a familiar pattern as most of the country east of the Rocky Mountains soared above normal readings.

May was a month of unstable weather for the major crop-producing areas of the Nation's mid-section. Thunderstorms, hail, and tornadoes left their mark, but planting continued at a healthy pace. California's drought condition improved a bit as rangelands and crops received some moisture. Winter struck a belated blow in the Northwest.

Dry days during mid-month plagued the Southeast, but some locally heavy precipitation fell late in May.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

MAY 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	4 Stations	98	31+	Heflin	34	11	Fort Payne	7.27	Wallace 2 E	T
Alaska	Salcha	83	18	Umiat	-16	1	Mac Leod Harbor	24.41	Port Clarence	T
Arizona	5 Stations	110	31	Fort Valley	11	19+	Pierce Ferry 17 SSW	2.77	19 Stations	.00
Arkansas	West Memphis	106	31	2 Stations	36	12	Bluff City 3 SW	3.97	West Memphis	.16
California	Death Valley	111	31	White Mountain 2	- 6	18	Lake Arrowhead	8.31	4 Stations	.00
Colorado	Uravan	98	31	Climax	5	21	Brandon	6.59	Georgetown	.07
Connecticut	Hartford WSO AP	93	28+	Hautboy Hill Farm	25	15	Mansfield Hollow Lake	5.24	Putnam Lake	1.49
Delaware	Milford 2 WSW	95	19+	Georgetown 5 SW	35	1	Georgetown 5 SW	2.21	Wilmgton Porter Reservoir	.85
Florida	2 Stations	98	26+	2 Stations	43	1	Miami 12 SSW	17.48	Brooksville Chin Hill	T
Georgia	2 Stations	98	20+	Blairsville Exp Station	29	10	Ellijay	7.07	Patterson	.12
Hawaii	Puukohola Heiau 98.1	93	27	Mauna Loa Slope Obs	31	9	Mount Waialeale 1047	44.10	Pohakuloa 107	.00
Idaho	Swan Falls Power House	99	31	3 Stations	15	5	Pierce	5.70	2 Stations	1.04
Illinois	Havana Power Station	96	19	2 Stations	28	10	Virginia	8.92	Olney 2 S	.85
Indiana	Gary	99	28	2 Stations	29	10+	North Vernon 2 SW	5.69	Waterloo	.70
Iowa	Humboldt	94	27	Elkader 5 SSW	28	10	Fort Madison	6.68	Eldora	1.30
Kansas	Hugoton	94	7	Holton 4 NE	38	11	Reading 2 N	12.52	Elkhart	1.96
Kentucky	Fords Ferry Dam 50	95	16	Baxter	25	11+	Rough River Dam	4.25	Williamsburg	.56
Louisiana	5 Stations	99	31+	Logansport 4 ENE	44	11	New Roads 5 ESE	5.70	2 Stations	.34
Maine	Orono	99	23	Houlton FAA AP	18	1	Machias	3.01	Caribou WSO AP	.74
Maryland	3 Stations	94	18	Cumberland 2	25	8	Mechanicsville 1 SE	5.23	2 Stations	.48
Massachusetts	2 Stations	95	22+	Borden Brook Reservoir	20	4	Chester 2	6.07	Nantucket FAA AP	1.35
Michigan	3 Stations	95	28+	Herman	16	9+	Baraga 5 WNW	3.62	Owosso Wastewater Plant	.07
Minnesota	2 Stations	95	19+	Tower 3 S	16	7	New London	8.52	Grand Portage R S	1.57
Mississippi	6 Stations	100	31	University	36	10	Saucier Exp Forest	8.70	Cleveland	.21
Missouri	Kennett Radio KBOA	97	30	Berryman 6 NW	28	11+	Edgerton	10.85	Summersville	.32
Montana	Poplar	98	13	Lakeview	12	5	Hysham	6.73	Mac Kenzie	.82
Nebraska	Fort Robinson	92	24	Agate 3 E	25	5	Clarkson	11.09	Kimball	1.85
Nevada	Sunrise Manr Las Vegas	107	31	Mount Rose Bowl	11	7	Lake Valley Steward	4.70	Searchlight	.46
New Hampshire	North Conway	95	23	Mount Washington	11	9+	Mount Washington	3.73	Monroe 5 NNE	.71
New Jersey	Tuckerton	96	18	High Point Park	23	9	Pottersville 2 NNW	3.64	Woodstown	.63
New Mexico	Jal	103	30	Star Lake	15	19	Grenville	6.15	12 Stations	.00
New York	2 Stations	96	21	Old Forge	19	8+	Kortright 2	7.21	Brockport 2 NW	.29
North Carolina	15 Stations	95	20+	Grandfather Mountain	24	10	Highlands 2 S	9.84	Greensboro Pump Station	.15
North Dakota	Crosby	97	13	Willow City	23	2	Fargo WSO AP	7.30	Drake 9 NE	.92
Ohio	Toledo Blade	96	21	Carpenter 1 S	22	10	Child Meldahl Dam	4.21	Garfield Heights	.35
Oklahoma	Walters	104	30	Zoe 1 E	37	11	Roosevelt	14.98	Daisy 2 E	1.58
Oregon	2 Stations	96	31	Crater Lake NPS Hq	7	6	Brightwood	10.64	Sisters	.49
Pennsylvania	Marcus Hook	96	18	Clermont 4 NW	15	8	Connellsville 2 SSW	4.85	Beavertown 1 NE	.31
Puerto Rico	2 Stations	98	31+	Adjuntas Substation	54	4+	Pico Del Este	16.28	Hato Arriba-Arecibo	1.45
Rhode Island	Providence WSO AP	91	17	2 Stations	32	10+	Providence WSO AP	3.43	Block Island WSO AP	1.66
South Carolina	Tilghman For Nursery	99	18	2 Stations	31	10	Summerville 3 NW	7.16	Sullivans Island	.55
South Dakota	3 Stations	92	24+	Custer	26	5	Mission	8.26	Watertown FAA AP	.89
Tennessee	Memphis WSFO	99	30	4 Stations	29	11+	Conasauga 2 N	5.92	Centerville Water Plant	.67
Texas	Pecos	107	30	Marfa 2	38	21	Mc Lean 3 E	14.62	Sterra Blanca	.00
Utah	2 Stations	100	31	2 Stations	10	18	Upper American Fork P H	7.79	Mexican Hat	T
Vermont	4 Stations	93	23+	Mount Mansfield	19	8	Chittenden	3.57	Burlington WSO AP	.29
Virginia	3 Stations	94	18	2 Stations	23	10+	Wakefield 1 NW	7.66	Winchester 1 N	.48
Virgin Islands	Alex Hamilton Field FAA	91	23	Cruz Bay	67	8	Caneel Bay Plantation	3.10	Castle Nugent	.25
Washington	6 Stations	85	31+	Rainier Paradise R S	17	6+	Aberdeen 20 NNE	9.76	Richland	.29
West Virginia	Ravenswood Lock Park	95	28	Spruce Knob	18	9	Mannington 1 W	5.41	Martinsburg FAA AP	.37
Wisconsin	2 Stations	93	19+	Newald 4 N	17	9	Stevens Point	5.94	West Allis	47
Wyoming	Torrington Exp Farm	91	25	Merna	8	5	Sheridan Field Station	4.47	Big Piney	.10

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1977

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
ALABAMA																																
BIRMINGHAM	189	994.6	1016.9	29.1	15.8	22.4	1.1	33.9	20	6.1	10	4	0	15.0	68	89	-3	61	8	7	0	0	0.5	5	9.8	N	25	7	12	12	6.1	63
HUNTSVILLE	190	994.2	1017.0	28.3	15.6	21.9	1.1	32.8	30	6.7	10	2	0	14.4	68	105	7	80	10	9	0	0	0.9	10	13.9	32	31+	11	10	10	5.4	
MOBILE	64	1008.5	1016.2	29.8	18.6	24.2	0.4	35.0	30	15.0	10+	4	0	17.2	70	135	20	70	11	11	0	0	0.8	14	14.3	9	22	6	16	9	5.9	
MONTGOMERY	59	1009.5	1016.7	30.5	16.9	23.7	1.3	34.4	31+	10.0	10	10	0	15.0	64	41	-47	29	5	3	0	0	0.3	11	10.7	W	8	9	13	9	5.6	70
ALASKA																																
ANCHORAGE	35	1004.7	1009.5	12.4	4.1	8.3	0.4	17.8	31	0.6	13+	B 0	0	1.1	63	12	-3	6	5	0	0	0	2.0	22	10.3	18	19	2	7	22	7.9	59
ANNETTE	34			14.6	5.3	9.9	0.3	21.7	17	2.8	28+	1	0			78	-79	17	15	0	0	0			11.6	17	31	6	13	12	6.5	
BARROW	9	1015.9	1016.4	-5.2	-9.2	-7.2	-0.1	2.2	31	-18.9	1	0	31	-8.3	90	3	-1	1	8	0	33	76	4.3	7	11.6	3	19	1	5	25	8.8	
BARTER ISLAND	12	1012.9	1014.9	-3.5	-8.4	-5.9	0.1	1.7	18	-18.3	1	0	31	-6.7	92	4	-4	2	6	0	41	203	2.2	8	14.3	26	15	0	3	28	9.4	
BETHEL	38	1003.4	1009.1	5.3	-1.4	1.9	-2.6	11.7	21	-7.2	3	0	26	-1.1	82	19	-2	4	14	0	64	533	1.5	22	10.7	16	4	3	7	21	8.0	
BETTLES	196	985.1	1009.4	10.7	1.8	6.3	0.9	20.0	19	-6.7	1	0	9	0.0	65	37	21	17	9	0	5	508	0.9	2								
BIG DELTA	386			13.4	3.9	8.7	0.8	22.8	18	-1.1	9	1	4			22	-2	8	12		0	0										
COLD BAY	29	1006.8	1010.2	7.3	0.8	4.1	-0.1	11.7	31	-5.0	20	0	7	0.6	79	43	-12	10	22	0	91	51	2.2	27	17.4	16	4	1	1	29	9.1	
FAIRBANKS	133	990.9	1007.7	14.7	3.9	9.3	0.8	25.0	18	-1.1	9	1	3	0.0	55	41	25	19	13	0	T	T	0.7	27	11.2	22	19	1	16	14	7.5	
GULKANA	479			11.1	0.6	5.8	-0.7	18.9	18	-5.6	12	0	16			36	20	24	7		102	102										
HOMER	19	1006.4	1009.0	9.3	1.5	5.4		15.6	31	-1.7	9	0	11	1.7	76	56	33	27	12	0	13	0	1.4	22	13.0	9	18+	6	8	17	7.0	
JUNEAU	4	1010.8	1011.5	14.1	3.3	8.7	0.5	21.7	18	-1.1	11	1	4	3.3	72	40	-44	13	12	0	0	0	0.9	16	12.5	12	19	5	8	18	7.3	68
KING SALMON	15	1006.4	1008.3	8.3	0.0	4.2	-1.7	14.4	31	-3.3	9	0	17	0.0	76	44	15	25	15	0	T	0	1.5	21	11.6	16	5	0	6	25	8.6	
KODIAK	4	1005.1	1009.4	9.4	1.6	5.5	-0.7	16.7	31	-2.2	9	0	8	1.1	76	130	19	48	15	0	5	0	0.5	7	12.5	10	1	6	10	15	6.6	
KOTZEBUE	3	1009.1	1009.7	2.6	-4.3	-0.8	-0.2	11.7	19	-16.1	3+	0	28	-2.8	87	8	-2	4	6	0	64	381	0.1	26	13.4	11	16	6	12	13	6.5	
MC GRATH	105	995.9	1008.6	9.8	0.4	5.2	-1.6	19.4	18	-7.2	4	0	16	-2.8	59	34	14	10	15	1	10	457	0.3	25	12.5	13	18	1	9	21	8.0	
NOME	4	1007.5	1008.2	3.2	-2.2	0.5	-1.1	11.7	18	-11.7	3	0	29	-3.3	76	23	5	6	14	0	254	102	1.2	12	13.4	10	4	7	4	20	7.5	32
ST. PAUL ISLAND	7	1007.5	1008.3	4.1	0.4	2.3	0.7	7.8	29	-1.7	20	0	13	-0.6	81	30	-2	10	17	0	36	T	2.1	24	13.4	34	18+	0	1	30	9.5	
TALKEETNA	105			11.9	0.5	6.2	-0.8	18.9	31	-3.9	12	0	17			64	27	22	11	0	T	356			8.0	20	18					
UNALAKLEET	5			6.4	-1.8	2.3		16.7	19	-10.0	4	0	25			16		6	13		23	152			10.3	12	9	3	4	24	8.3	
VALDEZ	11	1010.5	1011.4	9.6	2.5	6.1	-0.5	15.6	31	0.0	12	0	1	2.2	79	73	-8	14	14	0	71	1295	0.5	24	9.4	27	19	1	8	22	8.3	
YAKUTAT	9	1010.5	1011.5	10.3	2.2	6.3	0.0	18.3	18	-2.2	12+	0	7	3.3	79	167	-37	58	19	0	43	25	0.1	20	11.2	10	18+	3	10	18	7.5	
ARIZONA																																
FLAGSTAFF	2135	784.6	1011.1	17.7	-0.7	8.6	-1.5	30.0	31	-6.1	19+	0	19	-5.6	41	24	10	11	4	1	41	T	3.1	21	15.6	SW	16	15	9	7	4.1	81
PHOENIX	339	971.2	1009.5	31.7	16.9	24.3	-0.3	42.2	31	12.2	18+	15	0	0.6	24	4	1	3	2	1	0	0	1.2	23	17.9Y	W	3	22	5	4	2.6	92
TUCSON	788	922.8	1009.2	29.6	13.4	21.6	-1.6	39.4	31	8.3	14	6	0	-1.1	24	2	-2	2	1	0	0	0	2.1	23	13.0	W	24+	21	5	5	2.6	93
WINSLOW	1492	848.6	1010.7	24.9	5.3	15.1	-1.9	36.1	31	-3.9	18	3	3	-3.9	32	T	-7	T	0	0	0	0	3.8	20	17.4	20	24	18	7	6	3.6	
YUMA	59	1003.1	1010.2	29.8	15.2	22.5	-3.4	40.6	31	11.7	17+	9	0	3.9	33	1	0	1	1	0	0	0	2.3	25	11.2	SE	5	22	5	4	2.3	89
ARKANSAS																																
FORT SMITH	136	998.6	1015.0	28.6	16.3	22.5	1.3	33.9	30	5.6	12	1	0	15.6	67	55	-84	26	7	10	0	0	1.4	13	13.4	NE	8	4	18	9	6.3	64
LITTLE ROCK	78	1006.1	1015.7	29.7	16.7	23.2	2.2	36.1	30	8.3	11	7	0	16.1	67	73	-61	42	4	1	0	0	0.8	17	10.7	NE	8	6	20	5	5.7	90
CALIFORNIA																																
BAKERSFIELD	145	996.3	1013.8	25.6	13.4	19.6	-1.4	38.9	31	8.9	17+	3	0	6.7	48	15	10	9	5	1	0	0	2.5	33	10.3	33	5	12	10	9	4.9	
BISHOP	1252	868.9		21.7	4.4	13.1	-3.7	35.6	31	-2.2	7	2	3			15	8	10	5		T	0			23.2Y		5	12	9	10	5.1	
BLUE CANYON	1609	835.4	1012.9	9.7	1.7	5.7	-5.0	25.6	31	-3.9	7+	0	15	-1.1	68	120	41	29	15		442	152	1.3	20	8.0	18	6					
EUREKA U	13			14.1	7.6	10.8	-0.6	19.4	31	3.3	6	0	0			53	0	12	14		0	0			12.1	SW	2	5	12	14	6.7	64
FRESNO	100	1002.4	1014.2	24.3	10.8	17.6	-2.1	38.3	31	6.7	7+	2	0	5.6	50	29	21	14	6	1	0	0	3.0	30	12.5	31	22	15	6	10	4.6	82
LONG BEACH	8	1013.2	1014.5	21.6	13.1	17.3	-0.5	27.2	20	9.4	17+	0	0	10.6	68	59	57	52	5	0	0	0	2.1	22	10.3	17	8	10	12	9	5.3	
LOS ANGELES	30	1010.8	1014.3	19.7	12.7	16.2	-0.4	23.3	20	10.6	11+	0	0	11.7	78	65	63	44	7	3	0	0	2.6	24	16.5Y	SE	8	10	11	10	5.5	
LOS ANGELES U	82			20.7	12.5	16.6	-1.6	27.2	31	10.0	17+	0	0			77	74	61	6		0	0			11.6	SE	8	8	11	12	5.8	77
MT SHASTA R	1077	889.3	1013.5	14.5	1.8	8.2	-3.7	27.8	31	-3.3	4	0	9	0.6	63	43	-4	14	16		38	25	0.6	36								
OAKLAND	2	1015.9	1016.2	17.7	11.1	14.4	-0.5	23.3	30	7.2	6	0	0	8.3	70	28	14	7	9	1	0	0	3.5	26	11.2	27	5	13	8	10	4.6	
RED BLUFF	104	1001.4	1013.8	22.9	10.5	16.7	-2.9	35.6	31	4.4	7	2	0	6.1	54	84	59	37	9	1	0	0	0.4	20	14.8	S	6	10	7	14	6.2	81
SACRAMENTO	5	1013.5	1014.3	21.9	8.5	15.2	-2.7	34.4	31	4.4	6	2	0	6.7	63	19	6	18	8	2	0	0	2.4	19	10.3	W	5	13	5	13	5.1	81
SANDBERG R	1377	859.8	1012.8	13.3	4.0	8.7	-4.5	28.3	31	-1.7	7	0	4	1.1	67	86	80	62	8		150	T	2.6	32	20.6	34	4					
SAN DIEGO	4	1013.9	1015.0	19.1	14.2	16.6	-0.8	21.7	20	11.7	7	0	0	11.7	76	45	42	38	7	0	0	0	2.0	24	13.4	S	8	4	15	12	6.2	60
SAN FRANCISCO	2	1015.2	1016.0	16.9	9.4	13.2	-1.4	23.3	30	6.1	12+	0	0	6.1	66	10	0	5	8	1	0	0	5.2	28	17.4	29	15	13	7	11	5.0	
SAN FRANCISCO U	16			15.6	10.3	12.9	-0.8	22.8	30	8.3	6	0	0			14	1	5	7													
SANTA MARIA	72			18.7	7.1	12.9	-1.1	25.0	31+	1.7	6	0	0			62	57	34	7		0	0						16	7	8	4.1	
STOCKTON	7	1013.9	1014.9	24.1	10.4	17.2	-1.2	37.2	31	5.0	6	2	0	7.2	59	20	10	14	4	1	0	0	3.5	28	10.7	30	14	13	6	12	5.3	
COLORADO																																
ALAMOSA	2297			20.7	0.0	10.3	-0.1	27.8	31	-5.6	21+	0	15			9	-7	5	4		T	T	3.9	20				16	9	6	4.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	807.7	1008.2	22.2	7.4	14.8	1.7	27.2	24+	3.3	22	0	0	0.6	46	28	-25	12	5	10	0	0	1.8	15	15.6	19	18	11	10	10	5.1	
DENVER	1610	832.0	1006.6	23.8	8.0	15.9	2.1	29.4	23	3.3	21	0	0	1.7	44	9	-58	3	8	8	0	0	1.7	17	16.5	SW	18	8	12	11	5.8	81
GRAND JUNCTION	1476	847.6	1007.4	25.5	9.7	17.6	0.8	33.3	9	1.7	19	2	0	-3.3	28	15	-1	8	5	4	0	0	0.8	19	21.0	S	12	11	11	9	5.2	70
PUEBLO	1428	851.0	1006.8	27.4	9.6	18.5	2.3	32.8	23	5.6	22+	1	0	3.9	43	15	-27	12	2	2	0	0	1.4	17	18.8	SW	14	12	12	7	4.6	89
CONNECTICUT																																
BRIDGEPORT	2	1014.9	1015.4	21.3	10.2	15.8	1.2	27.2	27	2.8	9	0	0	7.8	63	25	-38	25	7	1	T	0	2.5	27	19.7	27	6	9	9	13	5.6	
HARTFORD	52	1008.1	1014.5	25.4	9.6	17.6	2.9	33.9	28+	1.7	9	4	0	6.7	54	94	5	57	9	1	33	25	1.0	26	13.4	NW	13	10	9	12	5.6	76
DE AWARE																																
WILMINGTON	23	1013.9	1016.8	23.9	11.5	17.7	0.8	32.8	18	3.9	9	1	0	9.4	61	24	-61	14	8	4	0	0	1.4	27	16.1	32	8	12	5	14	5.5	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1005.4	1017.0	25.2	10.8	18.1	1.1	32.2	18	2.8	12+	1	0	11.1	65	59	-34	22	11	3	0	0	0.6	25	15.6	33	8	10	11	10	5.4	
WASHINGTON NATIONAL	3	1014.9	1017.2	26.6	14.9	20.8	1.8	33.3	18	6.1	9	1	0	13.3	64	44	-50	14	9	4	0	0	1.0	22	22.4	NW	8	11	10	10	5.5	72
FLORIDA																																
APALACHICOLA U	6	1015.9	1016.3	28.3	17.3	22.8	-1.0	31.7	8	11.7	1	0	0	17.8	76	18	-52	6	5	11	0	0	0.9	15	8.5	SE	13+	9	16	6	5.1	78
DAYTONA BEACH	9	1015.2	1016.7	29.2	18.3	23.8	-0.1	34.4	25	12.2	14	3	0	18.3	76	117	50	52	9	8	0	0	2.2	10	10.3	9	23	14	10	7	4.6	
FORT MYERS	5	1015.2	1015.6	29.9	18.8	24.4	-1.0	32.2	31+	11.7	1	2	0	18.3	72	165	64	113	5	4	0	0	1.5	7	10.3	10	17+	13	11	7	4.9	
JACKSONVILLE	8	1015.9	1016.8	29.7	15.8	22.8	-0.7	34.4	8+	9.4	13	6	0	16.7	73	78	-4	24	9	6	0	0	1.0	11	10.3	W	8	9	16	6	5.4	65
KEY WEST	1	1014.2	1014.7	28.7	23.7	26.2	-1.0	30.6	31+	21.1	4	0	0	20.0	70	257	193	138	7	5	0	0	3.3	10	10.7	7	13	8	15	8	5.5	86
LAKELAND U	65			30.7	18.7	24.7	-0.3	34.4	24+	15.6	14+	10	0			69	-19	30	9		0	0						12	13	6	4.8	63
MIAMI	2	1015.6	1016.0	28.2	21.8	25.0	-0.6	31.7	29	17.8	14	0	0	18.9	71	402	246	294	13	8	0	0	2.9	8	11.6	6	13	2	17	12	6.6	74
ORLANDO/MC COY AFB	29	1012.5	1016.2	30.5	17.5	24.0	-0.7	33.9	25+	12.8	14	7	0	17.2	71	37	-37	11	8	8	0	0	1.6	8	14.3	29	9	8	15	8	5.4	
PENSACOLA	34	1012.2	1016.5	29.1	18.1	23.6	-0.4	33.9	30	13.3	1	3	0	16.7	70	51	-57	24	7	9	0	0	0.8	16	8.9	21	8	8	20	3	5.1	
TALLAHASSEE	17	1014.2	1016.5	30.4	14.9	22.7	-1.1	34.4	30	7.2	1	7	0	16.7	74	87	-16	63	7	9	0	0	0.8	8	10.3	7	23	8	18	5	5.0	
TAMPA	6	1015.9	1016.1	30.4	19.0	24.7	-0.4	32.8	31+	12.8	14	4	0	17.8	68	19	-43	13	6	6	0	0	0.9	8	8.0	9	12+	9	12	10	5.5	61
WEST PALM BEACH	5	1015.2	1015.9	29.1	20.8	24.9	-0.3	33.3	25	15.6	14	2	0	18.9	71	376	245	134	15	11	0	0	3.6	9	12.5	6	12+	7	14	10	6.0	
GEORGIA																																
ATHENS	244	988.5	1016.9	28.6	15.2	21.9	0.8	32.8	18	7.2	10	2	0	13.9	66	22	-80	9	7	6	0	0	0.7	4	7.6	3	24	8	10	13	6.1	
ATLANTA	308	980.4	1016.7	27.3	14.8	21.1	0.4	31.1	30+	7.8	11	0	0	13.9	67	52	-42	17	8	9	0	0	0.7	5	9.4	4	20+	7	13	11	6.0	61
AUGUSTA	41	1011.5	1016.8	30.1	14.8	22.4	0.4	34.4	19+	5.0	11	11	0	13.9	65	64	-22	31	9	9	0	0	0.3	9	15.6	5	22	8	14	9	5.3	
COLUMBUS	117	1002.7	1016.5	30.7	16.6	23.7	1.2	33.9	20+	9.4	11	13	0	16.1	68	89	-14	45	10	10	0	0	0.7	5	15.6	35	8	8	16	7	5.1	
MACON	108	1004.1	1016.8	31.2	15.8	23.5	0.4	35.0	30+	8.9	11	14	0	15.0	65	39	-51	19	6	4	0	0	1.0	6	13.4	S	31	8	13	10	5.6	81
ROME	194			28.3	14.3	21.3	0.9	32.8	31+	3.9	11	4	0			81	-19	33	8		0	0										
SAVANNAH	14	1015.2	1017.0	29.6	17.1	23.3	0.4	34.4	7	10.0	12	8	0	16.1	70	26	-81	12	7	8	0	0	0.8	10	12.1	E	23	8	12	11	5.9	62
HAWAII																																
HILO	8	1016.6	1017.9	28.4	19.1	23.7	0.7	30.6	17	16.1	3	0	0	18.9	78	276	20	135	27	0	0	0	1.2	14	9.4	SE	17	0	17	14	7.5	38
HONOLULU	2	1017.3	1017.6	28.9	21.7	25.3	0.4	30.0	29+	20.0	17	0	0	18.3	68	121	97	38	11	0	0	0	4.7	7	13.0	E	22	2	19	10	6.6	66
KAHULUI	15	1014.6	1016.9	28.7	19.9	24.3	0.2	31.7	9	17.2	16	0	0			5	-11	4	5	0	0	0	4.6	6	15.2	NE	22	11	14	6	4.8	78
LIHUE	31	1013.2	1018.5	26.9	21.2	24.1	-0.1	27.8	31+	17.8	14	0	0	19.4	76	320	258	170	21	1	0	0	4.2	7	14.8	S	12	1	18	12	7.0	56
IDAHO																																
BOISE	865	911.3	1010.9	18.4	5.7	12.1	-2.1	33.9	31	1.7	19+	1	0	1.7	54	46	12	23	15	4	T	0	0.8	30	15.2	NW	26	3	9	19	7.5	54
LEWISTON	431			19.4	7.8	13.6	-0.9	30.0	31	1.7	5	0	0			41	1	11	13		T	T			16.5Y		4	2	3	26	8.6	
POCATELLO	1358	858.8	1010.5	17.4	4.5	10.9	-1.5	30.6	31	0.0	30	0	1	1.1	55	53	20	22	17	3	28	25	3.0	22	14.8	SW	27	3	8	20	7.5	59
ILLINOIS																																
CAIRO U	96			29.2	18.4	23.8	3.1	34.4	30	8.9	10	7	0			60	-72	20	8		0	0			15.2	NW	29					77
CHICAGO O HARE	201	992.2	1016.3	26.7	12.4	19.6	4.9	33.9	28+	-0.6	10	9	2	10.0	56	48	-39	22	6	7	0	0	0.2	19	13.0	25	15	12	12	7	4.5	
CHICAGO MIDWAY	185	994.2	1016.7	27.3	14.1	20.7	5.2	35.0	20	-0.6	10	10	2	11.1	58	35	-51	28	8	11	0	0	0.3	17	14.8	S	22	14	9	8	4.5	76
MOLINE	177	994.2	1015.7	27.3	13.7	20.5	4.3	32.8	26	1.1	10	3	0	12.8	65	68	-32	33	10	7	0	0	1.3	17	18.8	NW	31	8	14	9	5.2	55
PEORIA	199	992.6	1016.2	27.2	13.4	20.3	3.9	32.8	26	1.1	10	1	0	12.2	63	90	-8	48	10	8	0	0	1.4	16	16.1	W	4	10	10	11	5.6	73
ROCKFORD	221	989.8	1016.5	27.2	13.0	20.1	5.2	32.2	28+	0.0	10	3	1	10.6	57	139	41	92	10	11	0	0	1.1	15	13.9	22	22	12	10	9	4.9	
SPRINGFIELD	179	994.2	1016.0	28.2	15.1	21.7	4.2	33.9	25	2.8	10	10	0	13.9	64	147	57	51	10	8	0	0	1.8	18	19.2	S	4	9	13	9	5.7	62
INDIANA																																
EVANSVILLE	116	1002.7	1016.6	28.8	15.6	22.2	3.5	34.4	30	6.1	10	8	0	13.3	59	68	-43	40	8	8	0	0	0.6	19	14.3	E	25	13	11	7	4.7	85

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	987.5	1017.1	27.2	12.7	19.9	4.6	33.3	28+	1.1	9	6	0	11.1	59	26	-71	14	5	3	0	0	0.4	20	12.5	NW	31+	13	8	10	4.9	85
INDIANAPOLIS	241	988.5	1017.2	27.9	14.9	21.4	4.7	32.2	31+	3.3	10	5	0	14.4	69	71	-33	31	8	7	0	0	0.6	21	10.7	S	5	14	8	9	4.6	76
SOUTH BEND	236	988.8	1016.4	27.4	13.3	20.4	5.7	33.3	21+	0.6	10	6	0	11.1	58	49	-32	28	6	8	0	0	0.5	21	12.5	28	31	9	12	10	5.2	
IOWA																																
BURLINGTON	211			26.6	13.9	20.3	3.7	32.2	26	2.8	9	1	0	13.3	66	74	-17	30	9	9	0	0	2.0	18	13.0	30	31+	11	9	11	5.6	
DES MOINES	286	980.0	1014.2	26.8	14.8	20.8	4.8	32.2	27	5.0	10	1	0	12.8	62	58	-49	20	10	9	0	0	2.5	16	17.0	E	2	5	12	14	6.6	67
DUBUQUE	322	977.7		24.6	12.1	18.4	3.9	30.6	28	0.6	9	0	0			84	-35	51	7		0	0										
SIOUX CITY	334	973.6	1012.9	25.5	13.7	19.6	3.6	30.6	16	7.2	10	0	0	13.3	71	78	-12	40	10	4	0	0	3.0	15	15.6	S	15	5	9	17	6.9	65
WATERLOO	265	983.7	1015.2	25.3	11.9	18.6	3.7	31.1	19+	0.6	10+	0	0	10.6	62	37	-69	12	8	6	0	0	2.5	17	13.4	29	31+	5	13	13	6.5	
KANSAS																																
CONCORDIA	448	959.7	1011.8	25.9	14.0	19.9	2.8	31.1	16	6.1	10	0	0	15.0	75	153	45	37	12	14	0	0	3.8	15	15.2	NW	30+	4	9	18	7.1	77
DODGE CITY	787	921.4	1010.2	26.2	14.7	20.4	2.7	31.1	8	11.1	5+	0	0	12.8	66	91	12	29	12	12	0	0	4.0	16	19.2	SW	19	4	9	18	6.9	64
GOODLAND	1114	884.2	1009.2	23.2	9.9	16.6	1.6	28.3	17	5.0	5	0	0	11.7	77	155	91	57	13	13	0	0	3.8	15	19.2	16	16	8	9	14	6.0	
TOPEKA	267	982.4	1013.7	26.4	15.9	21.2	3.1	32.8	15	7.8	11	1	0	16.1	77	199	97	55	15	14	0	0	3.2	15	17.0	W	30+	2	9	20	7.8	56
WICHITA	403	965.5	1012.6	26.4	14.9	20.7	1.7	29.4	8+	6.7	12	0	0	15.0	74	225	133	58	18	16	0	0	3.4	18	15.6	NW	28+	4	11	16	7.2	67
KENTUCKY																																
COVINGTON	265	985.8	1017.2	26.8	13.3	20.1	2.8	31.7	19	1.7	10	0	0	13.9	70	39	-56	13	9	4	0	0	0.6	23	9.4	27	31	9	8	14	5.8	
LEXINGTON	294	982.4	1017.5	27.3	14.6	21.0	2.8	32.2	20	1.1	10	1	0	13.9	66	38	-67	12	7	7	0	0	0.8	17	9.4	9	24+	7	11	13	6.0	
LOUISVILLE	145	999.3	1016.8	28.1	15.4	21.8	3.6	32.8	31	4.4	10	2	0	15.0	66	35	-72	17	9	5	0	0	1.1	18	10.7	SW	6	8	11	12	5.6	68
LOUISIANA																																
ALEXANDRIA	28	1011.2	1015.4	31.4	18.1	24.8	2.4	36.7	30	11.1	11	12	0	18.3	71	51	-91	51	2	1	0	0	0.9	15	9.4	35	8+	12	11	8	5.2	
BATON ROUGE	20	1013.2	1016.0	30.4	18.1	24.2	0.4	35.6	31	13.3	11	5	0	17.2	68	101	-11	80	6	7	0	0	1.0	12	15.6	13	2	10	8	13	5.6	
LAKE CHARLES	3	1014.2	1015.3	29.4	19.4	24.4	0.4	34.4	31	14.4	11	1	0	18.9	76	38	-90	20	5	4	0	0	2.2	16	10.3	14	24	4	22	5	5.8	
NEW ORLEANS	1	1014.9	1015.6	30.2	18.6	24.4	0.4	35.0	30	14.4	16+	5	0	19.4	76	66	-41	40	4	7	0	0	0.8	13	9.8	6	31	6	13	12	6.1	66
SHREVEPORT	77	1005.8	1015.0	29.9	16.8	23.4	0.4	35.0	31+	10.6	11	6	0	18.3	77	61	-67	48	5	4	0	0	1.4	16	9.4	15	21+	8	13	10	5.5	78
MAINE																																
CARIBOU	190	988.8		18.6	5.0	11.8	2.0	35.6	22	-2.8	1	3	7			19	-56	5	7		T	0						7	12	12	6.1	
PORTLAND	13	1010.8	1013.3	19.4	5.5	12.4	0.9	32.2	17	-1.7	8+	1	3	5.6	65	52	-33	46	7	1	T	T	0.8	30	13.4	NE	9	11	11	9	5.1	76
MARYLAND																																
BALTIMORE	45	1011.5	1017.0	25.9	12.6	19.3	1.7	34.4	18	5.0	9	3	0	11.7	65	38	-54	15	6	2	0	0	0.8	27	20.1	NW	8	13	11	7	5.1	65
MASSACHUSETTS																																
BLUE HILL OBS R	192			21.8	8.7	15.3	1.6	31.7	24	0.0	10	0	1			87	-5	72	6		198	203			25.0	NE	9					70
BOSTON	5	1013.2	1014.2	22.8	11.2	17.0	2.2	33.3	17	1.7	10+	2	0	7.8	59	89	1	78	6	2	13	T	1.5	27	19.7	NE	9	11	10	10	5.1	79
WORCESTER	301	976.6		21.1	7.9	14.5	1.3	30.0	24+	0.0	9	0	1	4.4	55	56	-45	38	6	2	323	305	2.5	29	12.5	32	13+	8	13	10	5.7	
MICHIGAN																																
ALPENA	210	992.2	1017.6	22.4	4.8	13.6	3.3	32.2	21	-3.9	8	1	7	5.6	63	47	-22	23	10	6	0	0	0.4	21	12.5	NW	6	10	17	4	4.7	84
DETROIT	189			25.2	12.2	18.7	4.0	32.8	22+	2.8	9	3	0							6			0.3	8	14.3	25	17					
DETROIT METRO	193	992.9	1016.9	26.1	9.8	18.0	3.5	33.3	21	0.6	10	3	0	8.9	59	61	-23	21	9	4	0	0	0.2	9	17.9	W	6	12	13	6	4.3	80
FLINT	235	989.2	1016.8	24.4	9.6	17.0	3.8	30.6	21+	-1.1	10	0	1	6.7	54	24	-55	10	7	4	0	0	0.4	19	11.6	26	13	10	13	8	5.2	
GRAND RAPIDS	239	988.2	1017.0	26.9	10.6	18.8	4.8	33.3	28+	-1.7	9	6	2	9.4	59	34	-47	19	7	6	0	0	0.5	18	13.4	SW	5	14	10	7	4.7	76
HOUGHTON LAKE	350	975.3	1017.3	24.1	7.3	15.7	4.2	31.7	20+	-2.2	10	0	5	6.1	56	35	-35	10	10	7	0	0	0.3	23	9.4	16	22+	14	10	7	4.5	
LANSING	256	985.4	1016.9	26.4	9.5	17.9	4.2	34.4	21	-3.3	10	6	3	9.4	60	16	-69	13	7	2	0	0	0.4	22	14.3	N	8	12	10	9	5.0	85
MARQUETTE J	206			20.8	8.5	14.7	4.7	31.7	16	-0.6	9	0	2			52	-23	20	6		T	T			11.2	SE	22					62
MUSKEGON	191	993.9	1016.8	24.3	10.3	17.3	4.3	31.1	25+	-0.6	11	0	3	8.3	58	38	-30	22	4	4	0	0	0.8	18	11.6	35	8	14	7	10	4.9	
SAULT STE MARIE	220	990.2	1016.9	20.5	5.3	12.9	3.4	29.4	16	-3.3	7	0	7	6.1	66	45	-31	28	11	6	0	0	0.4	25	13.9	SW	1	9	12	10	5.3	83
MINNESOTA																																
DULUTH	435	964.1	1015.3	20.6	7.6	14.1	4.4	30.0	13	-1.1	7	0	3	6.1	62	89	2	33	12	9	0	0	2.0	11	15.6	SW	5	8	7	16	6.7	61
INTERNATIONAL FALLS	359	970.9	1013.5	23.4	8.8	16.1	6.1	31.1	14	-3.9	7	0	4	8.3	63	148	78	41	14	9	0	0	1.4	16	9.8	26	5	7	10	14	6.5	
MINNEAPOLIS	254	984.1	1014.2	25.9	12.9	19.4	5.4	31.7	25+	4.4	8+	0	0	10.6	59	73	-13	33	11	12	0	0	2.1	15	17.0	NW	31	9	9	13	5.8	75
ROCHESTER	395	967.8	1015.1	24.6	11.4	18.1	4.6	30.0	24	2.2	10+	0	0	10.6	64	95	7	27	12	9	0	0	2.4	17	15.6	30	31	7	11	13	6.1	
ST CLOUD	313	977.3	1014.4	25.7	10.3	18.0	5.2	32.2	13	-2.2	2	1	1			91	-1	22	15		0	0						5	17	9	6.0	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow Ice pellets				Fastest mile (1 6 kilometers)							
		Station ◯	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
MISSISSIPPI																																
JACKSON	94	1004.1	1015.9	30.7	17.6	24.2	1.6	35.6	31+	9.4	10	8	0	17.2	69	19	-92	10	5	6	0	0	1.1	14	11.6	12	22	5	18	8	5.8	59
MERIDIAN	88	1005.8	1016.6	29.7	15.5	22.6	0.2	35.6	30	7.2	10	4	0	16.7	74	86	-11	30	5	7	0	0	0.4	15	10.7	15	23	6	18	7	5.5	
MISSOURI																																
COLUMBIA REGIONAL	270	983.4	1015.4	25.3	14.7	20.0	2.0	30.0	26	3.9	10	0	0	15.0	77	109	-9	60	12	9	0	0	1.8	16	17.9	W	30	8	7	16	6.3	58
KANSAS CITY	309	977.7	1013.8	25.6	15.6	20.6	2.2	30.6	15	6.7	11+	0	0	15.6	76	138	29	57	15	16	0	0	3.0	16	14.3	SW	21	2	12	17	7.2	85
ST JOSEPH	247			25.3	14.9	20.1	1.9	29.4	28+	5.6	11+	0	0			102	-16	47	11		0	0										
ST LOUIS	163	996.3	1016.2	28.1	15.3	21.7	2.9	32.8	25	2.8	10	3	0	15.0	70	54	-44	18	8	6	0	0	1.4	18	18.8	SW	4	8	9	14	5.9	63
SPRINGFIELD	386	970.5	1015.3	27.0	14.2	20.6	2.2	31.7	30	5.0	11	0	0	15.0	75	58	-67	20	11	8	0	0	3.0	16	16.5	NW	30	4	16	11	6.3	65
MONTANA																																
BILLINGS	1087	885.5	1008.1	20.8	6.6	13.7	1.2	29.4	31	0.6	5	0	0	0.6	46	34	-19	11	15	6	T	0	1.1	31	14.8	NW	15	4	13	14	6.6	69
GLASGOW	696	927.2	1008.2	21.8	7.4	14.6	2.3	32.8	10	-0.6	6	1	2	3.9	55	46	13	16	11	9	0	0	0.4	22	15.6	28	27	8	10	13	6.4	
GREAT FALLS	1116	883.5	1010.3	17.4	4.0	10.7	-1.1	26.7	31+	-2.8	18	0	4	0.0	52	54	-7	16	14	6	53	0	2.9	23	14.8	SW	5	0	12	19	7.8	
HAVRE	788	917.7	1008.7	21.1	6.1	13.6	0.8	29.4	9	-3.9	6	0	1	3.3	55	83	45	29	11	5	10	T	2.2	24	16.1	SW	28	4	14	13	6.3	73
HELENA	1167	876.7	1011.2	17.1	3.3	10.2	-1.0	28.3	31	-1.7	30	0	3	0.6	53	46	2	28	15	5	25	0	1.9	28	15.2	S	23	0	11	20	7.9	37
KALISPELL	904	907.6	1011.6	17.1	3.3	10.2	-0.3	25.6	31	-3.9	6	0	6	2.2	60	36	-10	9	10	1	T	T	0.9	17	11.6	16	28	1	6	24	8.3	
MILES CITY	801	916.4	1007.9	23.4	9.2	16.3	2.8	32.2	24+	2.2	5	2	0	5.0	53	62	10		15	6	0		0.7	22								
MISSOULA	972	900.1	1011.8	16.9	3.4	10.2	-1.1	28.3	31	-3.9	6	0	5	2.2	62	54	11	12	16	9	T	0	1.4	31	15.2	SW	3	0	5	26	8.6	29
NEBRASKA																																
GRAND ISLAND	561	946.5	1011.5	24.9	14.0	19.5	3.6	31.1	16	9.4	5	0	0	13.3	70	174	78	45	13	14	0	0	3.5	16	17.9	22	16	7	6	18	6.9	
LINCOLN	359	970.5	1012.4	26.6	13.8	20.2	3.6	32.2	16	6.7	10	1	0	13.3	68	132	34	41	12	9	0	0	3.0	16	18.8	SE	21	6	9	16	7.0	65
NORFOLK	471	957.0	1011.6	25.9	13.8	19.9	4.3	31.1	16	10.0	10	0	0	12.2	65	219	125	70	14	11	0	0	3.3	17	14.3	24	19	3	10	18	7.0	
NORTH PLATTE	846	914.0	1010.3	23.3	11.2	17.3	2.7	28.3	16	3.3	5	0	0	10.6	70	150	67	50	12	10	0	0	2.9	15	16.5	SE	3	2	11	18	7.3	63
OMAHA	298	978.0	1012.8	27.4	15.1	21.2	4.0	31.7	26+	7.8	10	0	0	15.6	73	154	49	39	13	10	0	0	2.7	17	17.4	S	21+	5	5	21	7.3	
SCOTTSBLUFF	1206	875.0	1008.3	25.0	9.9	17.5	3.9	31.7	24	4.4	22	0	0	6.1	54	53	-19	10	13	8	0	0	1.5	13	16.5	28	15	5	12	14	6.6	
VALENTINE	789	919.4		24.2	10.2	17.2	3.4	29.4	18+	3.3	5	0	0			156	85	44	12		0	0	2.6	17	26.8	SW	18	5	15	11	6.7	73
NEVADA																																
ELKO	1539	840.2	1010.0	17.3	3.4	10.3	-0.7	33.3	31	-2.8	19	1	2	-2.2	45	37	10	14	18	2	56	T	1.8	24	13.0	32	19	2	5	24	8.3	
ELY	1906	804.6	1010.2	14.4	-0.1	7.2	-2.8	28.9	31	-6.7	4	0	19	-1.7	60	83	59	28	14	3	277	76	3.2	20	17.0	S	6	4	6	21	7.6	
LAS VEGAS	659	933.6	1009.1	26.9	12.7	19.8	-3.1	40.0	31	6.1	10	6	0	-1.1	29	18	16	10	4	1	0	0	3.4	20	24.1	SW	5	17	4	10	4.3	72
RENO	1342	862.5	1011.7	16.8	1.5	9.2	-3.4	34.4	31	-5.0	7+	1	13	0.0	57	31	15	12	11	1	74	25	2.0	28	15.2	NW	15	6	9	16	6.8	71
WINNEMUCCA	1311	864.5	1010.9	18.3	2.2	10.2	-1.9	35.6	31	-3.9	6	1	7	-0.6	50	40	17	12	17	2	41	T	1.8	26	15.6	W	3	3	6	22	8.0	59
NEW HAMPSHIRE																																
CONCORD	104	1001.4	1014.0	23.9	5.2	14.6	1.8	34.4	22	-5.0	8	5	6	6.1	60	62	-15	34	7	1	T	0	1.4	29	12.1	NW	14	10	13	8	5.3	76
MT WASHINGTON OBS	1909			6.4	-1.8	2.3	1.0	18.9	22	-11.7	9+	0	20			95	-54	47	11	1	414	102			41.1	NW	14	5	13	13	6.7	53
NEW JERSEY																																
ATLANTIC CITY	20	1014.2	1016.5	23.2	9.8	16.5	0.1	32.8	18	1.7	9	1	0	8.9	63	16	-74	11	6	4	T	T	1.5	25	13.4	30	9	11	10	10	5.5	67
ATLANTIC CITY U	3			20.0	12.1	16.1	0.7	31.7	18	4.4	9	0	0			23	-55	14	5						13.9	NW	13					
NEWARK	2	1014.6	1015.7	24.5	12.6	18.6	1.9	32.8	28	2.8	9	3	0	7.8	54	33	-58	16	8	3	T	0	1.5	27	14.3	31	8	9	9	13	5.7	
TRENTON U	17			24.6	12.1	18.3	1.6	32.8	18	2.8	9	2	0			29	-57	12	7		T	0			16.5	NW	8	11	10	10	5.2	69
NEW MEXICO																																
ALBUQUERQUE	1619	835.1	1008.3	26.2	9.6	17.9	-0.6	32.8	31	3.3	15	1	0	-5.0	23	3	-11	3	1	2	0	0	1.8	21	17.9	SE	17	16	10	5	3.7	75
CLAYTON	1515			24.1	9.6	16.8	1.3	28.3	23	5.0	19	0	0			37	-30	13	10		0	0										
ROSWELL	1112	886.2	1007.3	30.8	15.1	22.9	2.7	38.3	30	10.0	15	8	0	4.4	36	62	36	39	3	5	0	0	2.1	17	26.8	NW	31	12	13	6	4.6	91
NEW YORK																																
ALBANY	84	1004.4	1015.1	23.6	7.8	15.7	1.4	31.7	17	-1.1	8	0	5	7.2	59	58	-25	34	8	3	41	T	1.3	27	14.8	N	9	10	9	12	5.7	70
BINGHAMTON	485	958.7	1017.2	21.4	8.6	15.0	2.2	30.0	28+	-0.6	9+	0	2	6.7	60	44	-54	23	9	2	53	25	2.3	28	13.4	NW	9	10	11	10	5.3	71
BUFFALO	215	991.2	1016.9	22.0	9.4	15.7	2.9	32.2	21	1.1	9	1	0	6.7	58	35	-40	13	8	1	13	T	1.6	24	15.2	SW	8	8	15	8	5.2	76
NEW YORK U	40	1012.5	1015.8	23.9	12.7	18.3	1.5	33.3	28	2.2	9	2	0	8.3	57	43	-45	14	7	3	T	0	0.7	31	8.9	NNW	8					74
NEW YORK KENNEDY	4	1015.2	1016.0	21.5	11.4	16.5	1.1	31.1	28+	3.3	9	0	0	8.3	64	58	-32	25	8	4	0	0	1.7	26	12.5	35	9	11	10	10	5.2	
NEW YORK LA GUARDIA	3	1014.9	1016.0	23.2	12.5	17.8	1.3	33.3	28	3.3	9	1	0	7.2	53	46	-39	17	7	3	T	0	1.7	27	20.1	NW	6	10	10	11	5.4	
ROCHESTER	167	996.3	1016.6	23.4	8.4	15.9	2.3	33.3	21	0.0	8	2	1	8.3	64	9	-62	5	4	3	15	T	1.7	28	19.7	NE	28	10	14	7	5.1	74

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm. or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow Ice pellets: Total	Precipitation: Snow Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear 0-3	No of days (sunrise to sunset): Partly cloudy 4-7	No of days (sunrise to sunset): Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	1001.4	1016.2	23.1	8.3	15.7	1.9	35.6	21	0.6	15+	3	0	6.7	58	19	-58	4	10	2	25	T	1.5	28	15.6	NW	28	10	13	8	5.1	71
NORTH CAROLINA																																
ASHEVILLE	652	942.8	1018.5	24.6	11.6	18.1	0.5	28.9	6	-0.6	11	0	1	11.7	70	101	17	31	9	5	0	0	0.9	35	9.4	36	9	8	10	13	5.8	59
CAPE HATTERAS R	2	1017.3	1017.6	25.0	16.8	20.9	1.4	30.6	19	6.7	10	0	0	16.1	75	46	-37	13	11	4	0	0	0.1	9	8.0	15	24	12	10	9	5.0	
CHARLOTTE	224	990.5	1017.7	27.1	14.9	21.0	0.6	32.8	19	3.9	11	3	0	13.3	66	80	7	25	12	6	0	0	0.4	3	10.3	NW	29+	7	10	14	6.2	48
GREENSBORO	273	986.5	1017.7	27.2	14.0	20.6	1.1	33.3	19	1.1	11	4	0	12.2	63	18	-59	8	7	7	0	0	0.4	34	13.4	NW	7	11	9	11	5.4	65
RALEIGH	132	1001.7	1017.4	27.2	13.3	20.2	0.6	32.8	19+	-0.6	10	2	1	14.4	75	100	16	34	8	6	0	0	0.4	36	9.4	36	5	13	6	12	4.9	54
WILMINGTON	9	1016.3	1017.5	27.7	16.1	21.9	0.1	34.4	19	5.0	11	5	0	16.7	78	171	71	70	9	7	0	0	0.4	11	14.3	W	9	8	12	11	5.8	60
NORTH DAKOTA																																
BISMARCK	502	951.2	1010.0	24.6	8.4	16.5	4.1	32.8	24	-1.7	2	1	3	6.7	57	28	-27	9	14	7	0	0	2.2	17	20.1	SW	28	8	10	13	6.3	67
FARGO	273	978.7	1011.2	25.6	12.8	19.2	6.6	32.2	13	-1.1	7	1	2	10.0	59	185	127	104	12	8	0	0	3.3	17	15.6	S	17	7	10	14	6.3	60
WILLISTON	579	941.1	1008.5	24.5	9.1	16.8	4.6	33.3	24+	-1.1	6	4	1	6.7	56	75	34	28	12	9	0	0	1.2	17	16.1	S	24	4	15	12	6.7	67
OHIO																																
AKRON	368	973.2	1017.5	25.6	11.8	18.7	3.9	32.2	28+	1.1	10	2	0	8.3	53	27	-72	13	6	3	0	0	0.5	30	9.4	30	12+	13	10	8	4.5	
CINCINNATI ABBE OB	232			27.8	14.3	21.1	3.1	32.8	19	2.2	10	3	0			102	1	49	9						7.6	SW	29					73
CLEVELAND	237	988.8	1018.0	23.7	9.4	16.6	1.9	31.1	31+	-0.6	8	0	1	10.0	66	26	-63	10	4	4	0	0	0.8	31	12.5	W	8	13	10	8	4.7	76
COLUMBUS	247	987.8	1017.4	26.8	11.8	19.3	3.2	31.7	31+	0.0	10	0	1	10.6	59	24	-80	6	10	6	0	0	0.2	27	18.3	S	31	12	13	6	4.6	66
DAYTON	303	981.4	1017.1	27.3	13.6	20.4	4.0	32.8	19	1.1	10+	3	0	11.7	60	51	-44	36	6	3	0	0	0.8	24	12.5	NW	8	12	9	10	5.1	80
MANSFIELD	395			24.2	10.5	17.4	1.7	30.0	28	-1.1	10	0	2	9.4	63	51	-45	19	9	4	0	0	0.5	26	13.0	30	8	16	7	8	4.3	
TOLEDO	204	992.2	1017.1	25.5	9.6	17.6	2.7	33.3	28	-0.6	10	4	1	10.6	64	39	-46	23	8	6	0	0	0.1	34	16.1	N	8	14	11	6	4.5	79
YOUNGSTOWN	359	974.9	1017.5	24.5	9.5	17.0	2.8	31.1	28	-0.6	8	0	1	8.9	63	20	-79	10	7	4	0	0	0.4	32	12.5	33	8	9	15	7	5.0	
OKLAHOMA																																
OKLAHOMA CITY	392	967.2	1012.8	26.7	15.5	21.1	0.9	31.1	30	8.3	11	0	0	16.1	76	202	70	59	15	14	0	0	4.5	16	15.6	SW	20+	5	10	16	7.0	58
TULSA	198	989.5	1013.5	28.6	16.5	22.6	2.1	33.9	30	9.4	12	1	0	16.7	72	145	15	49	16	13	0	0	3.5	17	17.0	SW	21	5	16	10	6.2	51
OREGON																																
ASTORIA	2	1014.6	1015.5	14.5	5.7	10.1	-1.2	18.3	9	0.0	12	0	1	7.2	84	152	83	35	23	1	T	0	1.9	22	10.3	17	25+	1	11	19	8.1	
BURNS J	1265			14.9	1.9	8.4	-2.8	31.7	31	-4.4	4	0	10			42	16	10	14		36	25			19.7Y	W	21	3	6	22	7.6	
EUGENE	109	1002.0	1015.9	17.1	4.4	10.7	-2.5	23.3	31	0.0	29+	0	2	6.7	77	72	20	14	18	1	T	0	1.6	24	9.4	29	3	1	7	23	8.3	
MEDFORD	396	967.5	1015.4	18.4	5.2	11.8	-2.2	30.0	31	0.0	8	0	1	4.4	66	60	24	18	14	2	T	0	1.4	32	11.2	5	8	5	4	22	7.5	
PENDLETON	452	959.4		18.9	6.7	12.8	-1.9	27.8	31	1.7	6+	0	0			47	16	12	11	1	0	0			13.4	28	3	2	10	19	7.6	
PORTLAND	6	1013.9	1015.2	16.8	7.4	12.1	-1.6	24.4	9	4.4	12	0	0	7.2	75	109	56	18	21	2	T	0	1.1	24	11.2	W	26	0	8	23	8.3	64
SALEM	60	1007.8	1015.2	16.7	5.2	11.0	-2.2	23.3	9	-0.6	12	0	1	6.1	73	96	42	19	18	1	T	0	2.0	23	8.0	24	26+	2	6	23	8.0	
SEXTON SUMMIT R	1169	881.8	1015.2	11.7	1.8	6.7	-3.0	22.2	31	-2.2	6	0	12	2.2	81	103	47	27	17		140	51			16.5	21	1					
PACIFIC AREA																																
GUAM TAGUAC R	110			30.2	21.9	26.1	-0.3	31.7	16	18.9	16	0	0			175	61	110	18		0	0			12.1	E	3	1	16	14	7.2	67
JOHNSTON	2	1013.9	1014.5	28.2	24.0	26.1	0.1	28.9	24+	21.7	27	0	0	21.7	76	29	-27	8	17	0	0	0	6.9	8	15.2	E	25+	9	13	9	5.4	86
KOROR R	29	1006.1		31.7	24.9	28.3	0.6	32.8	24+	23.9	29+	13	0			289	-81	85	24	3	0	0	1.7	8	11.2	NE	28	0	8	23	8.5	57
KWAJALEIN	2			30.1	25.1	27.6	-0.1	31.7	23	22.8	10	0	0			314	67	75	22	1	0	0			13.4	9	8	0	10	21	8.3	
MAJURO	3	1010.2		29.6	23.8	26.7	-0.7	31.1	13	22.2	25+	0	0			437	129	57	27		0	0	5.2	7	13.0	E	9	0	3	28	9.5	49
PAGO PAGO	4	1010.8	1011.1	29.6	23.1	26.3	-0.1	31.1	8+	20.0	25	0	0	22.8	83	513	242	133	18	7	0	0	2.1	12	14.3	S	13	2	9	20	7.6	30
PONAPE R	37			30.9	23.8	27.4	0.3	32.2	29+	22.8	23+	4	0			665	171	106	28	2	0	0			8.9	NE	2	0	6	25	8.9	34
TRUK MOEN ISLAND	2	1009.8		30.9	24.7	27.8	0.4	32.2	23+	23.3	27+	4	0			296	-103	44	22	1	0	0	3.2	7	9.8	SE	8	0	0	31	9.8	43
WAKE	3	1014.6	1014.7	30.3	23.4	26.9	0.3	31.7	31+	21.7	14+	0	0	22.8	81	41	-17	16	16	0	0	0	4.0	8	11.6	E	9	17	13	1	3.8	82
YAP R	13	1008.1		30.9	23.7	27.3	-0.3	32.2	25+	21.1	24+	2	0			263	8	92	17	0	0	0	2.9	9	8.5	SE	13+	2	12	17	7.5	66
PENNSYLVANIA																																
ALLENTOWN	118	1002.7	1016.7	24.8	10.6	17.7	2.1	33.3	28	3.3	9+	3	0	8.3	58	44	-52	18	6	3	T	0	1.7	28	13.9	32	13	10	11	10	5.5	
ERIE	223	991.2	1017.8	20.9	8.4	14.7	2.1	30.6	21	-0.6	8	0	2	8.3	69	64	-28	34	4	3	0	0	0.8	24	10.7	36	8	13	11	7	4.6	
HARRISBURG	103	1004.1	1016.8	24.5	11.6	18.1	0.8	32.8	28	4.4	15+	1	0	9.4	61	25	-70	10	5	1	T	0	1.1	28	11.2	NW	8	11	12	8	5.2	77
PHILADELPHIA	2	1015.6	1016.7	25.2	12.3	18.8	1.4	32.8	18	5.0	9	2	0	10.0	61	18	-67	8	6	3	0	0	1.7	27	16.5	NW	8	12	8	11	5.6	63
PITTSBURGH	347	973.9	1017.7	24.4	10.0	17.2	1.8	30.6	29	0.6	10+	0	0	8.9	61	65	-27	18	8	5	T	0	1.1	30	14.3	34	8	12	11	8	4.8	54
SCRANTON	283	982.7	1016.7	22.4	8.7	15.6	0.6	31.1	28	0.0	9+	0	2	7.8	63	44	-45	15	8	3	61	25	1.2	28	13.0	NW	13	9	14	8	5.4	74
WILLIAMSPORT	160	998.0	1016.8	25.2	10.2	17.7	2.1	33.3	28	2.8	15+	3	0			26	-75	12	6	2	5	T	1.0	32	12.5	33	8	9	13	9	5.5	
RHODE ISLAND																																
BLOCK ISLAND	34			17.1	9.6	13.3	1.2	25.6	18	3.9	10	0	0			42	-40	21	6		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1012.2	1014.6	22.6	9.9	16.2	2.4	32.8	17	0.6	9	1	0	7.2	57	87	-2	51	6	2	178	51	1.4	28	13.0	24	2	9	10	12	5.5	70
SOUTH CAROLINA																																
CHARLESTON	12	1015.9	1017.7	29.1	16.3	22.7	0.4	33.9	7	5.6	11+	6	0	16.7	74	118	22	51	8	7	0	0	0.7	12	10.7	7	23	6	15	10	5.9	83
CHARLESTON U	3			28.2	19.3	23.8	0.8	33.9	19+	11.1	10	5	0					36			0	0										
COLUMBIA	65	1009.1	1017.2	30.2	14.8	22.5	0.2	36.1	6	3.3	11	10	0	14.4	65	23	-62	13	5	8	0	0	0.5	8	9.4	29	7	6	18	7	6.0	72
GRNVLLE-SPRTNBRG	292	982.7	1017.1	28.1	15.8	21.9	1.3	33.3	6	3.9	10	2	0	14.4	67	69	-6	43	13	5	0	0	0.7	2	11.2	SW	8	9	9	13	5.8	65
SOUTH DAKOTA																																
ABERDEEN	395	964.8	1011.1	25.2	11.3	18.3	5.1	31.1	13	-0.6	2	0	1	11.1	66	72	6	23	9	7	0	0	2.8	14	14.8	11	16+	5	14	12	6.3	
HURON	390	964.8	1010.6	25.8	11.3	18.6	4.7	31.7	16	2.8	2	0	0	11.7	67	46	-23	32	7	4	0	0	3.0	15	18.3	NW	4	3	12	16	6.9	80
RAPID CITY	964	900.8	1009.8	23.2	8.2	15.7	2.8	29.4	24	2.2	16	0	0	7.8	64	63	-8	19	10	8	0	0	1.4	17	18.8	NW	4	2	15	14	6.9	67
SIOUX FALLS	432	961.7	1012.5	25.2	13.4	19.3	5.1	31.1	16	5.6	2	0	0	11.1	61	81	-5	27	10	6	0	0	3.2	15	15.6	25	19	5	12	14	6.4	
TENNESSEE																																
BRISTOL	459	964.4	1018.3	26.4	12.3	19.3	1.1	30.6	31+	1.1	11+	0	0	12.8	71	49	-35	14	12	7	0	0	0.2	36	10.7	30	31	10	10	11	5.5	
CHATTANOOGA	203	992.9	1017.3	27.5	15.3	21.4	1.1	32.2	30	7.2	10	1	0	16.1	77	65	-22	16	13	13	0	0	0.4	7	14.8	29	18	10	9	12	5.6	57
KNOXVILLE	299	982.7	1017.4	27.2	14.7	21.0	0.8	32.2	31+	3.9	10	2	0	15.0	72	29	-54	15	8	9	0	0	0.4	36	8.0	3	23+	9	9	13	5.5	81
MEMPHIS	79	1006.1	1016.2	30.7	18.6	24.7	3.1	37.2	30	8.9	11	13	0	16.1	62	21	-90	9	3	5	0	0	1.2	16	17.9	36	30	9	12	10	5.5	87
NASHVILLE	180	995.6	1017.0	28.4	15.9	22.2	1.9	33.3	30	6.1	10	3	0	15.0	68	42	-62	17	8	7	0	0	0.9	16	12.5	20	17	12	10	9	4.9	74
OAK RIDGE R	276			25.9	12.2	19.1	-0.2	31.1	20	2.2	10	0	0			42	-47	13	9		0	0			12.1		1	12	8	11	5.2	
TEXAS																																
ABILENE	544	949.5	1011.0	28.4	17.6	23.0	0.6	36.7	28	12.2	12	4	0	17.2	73	11	-87	6	6	9	0	0	5.2	16	15.2	S	16+	4	8	19	7.2	59
AMARILLO	1098	888.3	1009.2	25.4	13.8	19.6	0.9	32.8	30	9.4	15	1	0	12.8	69	102	30	35	14	16	0	0	4.3	18	16.1	4	9	8	8	15	6.2	56
AUSTIN	182	991.9	1013.6	28.5	19.6	24.1	0.1	33.3	31	15.6	12+	2	0	18.9	78	31	-69	18	10	3	0	0	3.0	16	13.9	NW	21	1	8	22	8.2	36
BROWNSVILLE	6	1011.9	1012.3	30.8	22.8	26.8	0.5	33.3	31	19.4	10+	7	0	21.7	76	19	-44	11	4	2	0	0	5.3	14	16.5	SE	23	1	14	16	7.2	55
CORPUS CHRISTI	12	1011.2	1012.8	30.1	21.9	26.0	0.5	33.3	31	16.7	1	3	0	22.2	82	50	-31	33	6	3	0	0	5.1	13	13.0	14	20	1	11	19	7.5	52
DALLAS - FORT WORTH	168	992.2	1013.0	31.3	19.1	25.2	2.7	35.6	30+	11.1	12	12	0	17.8	66	25	-88	21	3	3	0	0	3.6	17	13.0	36	31	6	10	15	6.6	
DEL RIO	313	974.9	1010.3	28.7	19.7	24.2	-1.4	32.8	21	16.1	23+	2	0	20.0	79	58	-4	21	10	9	0	0	5.0	12	11.6	13	14+	2	3	26	8.7	
EL PASO	1194	878.8	1007.9	30.1	12.9	21.5	-0.8	37.2	30	6.1	22	9	0	-0.6	26	2	-7	1	2	2	0	0	2.5	24	14.3	1	31	18	10	3	3.1	91
GALVESTON	2			26.4	22.5	24.5	0.1	29.4	26	19.4	21+	0	0			17	-63	8	3		0	0			13.4	S	2					64
HOUSTON INTERCON	29	1010.8	1014.5	29.8	17.3	23.6	-0.7	34.4	31	13.3	11	4	0	18.9	77	20	-109	18	2	3	0	0	2.1	13	10.3	7	21	7	13	11	5.9	72
LUBBOCK	992	900.4	1009.4	28.7	15.6	22.1	1.8	36.7	30	10.6	15	5	0	12.2	61	62	-18	34	10	11	0	0	3.7	17	13.9	25	20+	9	12	10	5.5	71
MIDLAND	869	912.3	1008.4	32.1	17.3	24.7	2.3	38.9	29	11.7	15+	14	0	12.2	56	15	-40	7	5	9	0	0	5.1	16	20.6	29	5	11	12	8	5.1	
PORT ARTHUR	5	1014.2		30.6	19.8	25.2	1.3	36.1	31	14.4	11	7	0	19.4	75	87	-39	67	4	4	0	0	2.7	16	11.6	S	1	6	17	8	5.7	73
SAN ANGELO	580	945.5	1010.5	29.2	19.1	24.2	0.6	36.1	28	13.9	21	4	0	17.2	69	54	-14	28	7	7	0	0	3.6	14	13.0	15	20+	2	12	17	7.3	
SAN ANTONIO	240	985.1	1012.6	27.6	20.0	23.8	-0.7	31.7	31	15.0	12+	0	0	20.0	82	41	-37	26	7	4	0	0	4.1	14	13.0	4	31	0	8	23	8.6	30
VICTORIA	32	1009.5	1013.4	29.6	20.3	24.9	0.2	33.3	31	15.0	1	2	0	19.4	77	57	-43	56	4	3	0	0	3.9	13	20.6Y	N	21	1	14	16	7.3	
WACO	153	995.6	1013.4	29.9	19.4	24.7	1.1	33.9	31	11.7	12	5	0	19.4	76	43	-73	19	8	4	0	0	4.0	14	14.3	14	9+	4	6	21	7.7	
WICHITA FALLS	303	976.0	1012.1	28.6	16.8	22.7	0.3	35.0	30	10.0	12	3	0	17.8	77	96	-20	27	9	14	0	0	4.3	15	20.6	22	5	4	13	14	6.4	
UTAH																																
MILFORD	1533	841.9	1009.8	19.6	2.9	11.3	-2.3	32.8	31	-2.8	11	1	8			48	33	29	12		38	T			21.9	SW	6	7	10	14	6.2	61
SALT LAKE CITY	1286	866.9	1009.7	18.6	6.9	12.8	-1.8	28.9	31	1.1	18	0	0	3.9	60	121	83	26	16	5	15	0	1.3	18	17.0	SW	26	5	6	20	7.6	56
VERMONT																																
BURLINGTON	101	1002.7	1015.1	22.9	8.2	15.6	2.9	33.9	22	-1.1	8	4	2	5.6	54	7	-69	5	4	0	T	0	0.9	32	12.5	NW	25	7	14	10	5.8	71
VIRGINIA																																
LYNCHBURG	279	984.4		26.2	12.8	19.5	1.1	32.2	19+	2.8	11+	2	0			38	-44	19	8		0	0	0.3	30	11.2	SW	6+	15	4	12	5.0	71
NORFOLK	7	1016.6	1017.7	25.6	14.6	20.1	0.8	32.8	18	7.8	16	1	0	13.3	69	98	13	35	6	4	0	0	0.4	12	13.0	30	4	12	9	10	5.1	68
RICHMOND	50	1011.2	1017.4	27.4	12.7	20.1	0.9	34.4	18	4.4	16	4	0	13.3	70	101	14	36	10	7	0	0	0.1	4	13.4	N	8	11	8	12	5.5	62
ROANOKE	350	976.3	1017.8	26.9	13.1	20.1	2.1	33.9	19	1.7	11+	4	0	11.7	63	39	-50	14	8	5	0	0	0.8	31	10.7	31	14	16	2	13	5.1	
WALLOPS ISLAND	3			21.6	13.2	17.4	0.0	33.3	18	4.4	9	1	0			47	-38	15	9		0	0			22.4Y	NW	9					
WASHINGTON																																
OLYMPIA	59	1006.8	1014.1	16.6	4.9	10.8	-1.4	23.3	9	-0.6	12	0	1	6.1	73	132	85	36	17	3	T	0	2.4	21	8.9	25	3	0	9	22	8.5	
QUILLAYUTE	55	1006.4	1014.0	14.2	4.3	9.3	-1.3	21.7	1	-1.7	12	0	1	6.1	82	225	106	47	20	1	T	0	1.1	21	8.5	SW	26	1	8	22	7.9	22
SEATTLE U	6			15.8	8.2	12.1	-1.6	21.1	20	3.9	12	0	0			108	64	28	16		0	0			16.5Y	WSW	26					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	998.0	1014.3	16.6	8.3	12.5	-0.2	22.2	20	5.0	12+	0	0	6.1	69	94	51	27	17	0	0	0	2.2	20	11.2	SW	3	2	11	18	7.7	39
SPOKANE	718	927.5	1011.0	16.8	4.9	10.9	-1.7	27.2	1	0.6	6+	0	0	2.8	60	43	6	11	13	2	T	0	2.7	20	13.0	W	4	0	9	22	8.4	47
STAMPEDE PASS R	1206	876.1		7.9	0.9	4.4	-1.8	16.1	9	-2.8	11	0	15			148	42	33	25		665	254						0	5	26	8.9	
WALLA WALLA U	289			19.2	8.0	13.6	-2.1	28.3	31	4.4	5	0	0			33	-7	12	14		0	0			9.4	SW	14+	1	13	17	7.4	49
YAKIMA	321	973.2	1011.7	19.3	3.7	11.5	-2.9	25.0	1	-1.7	6	0	4	1.7	51	17	3	6	8	0	0	0	1.7	28	13.4	24	25	3	12	16	7.1	
WEST INDIES																																
SAN JUAN P.R.	4	1012.9	1015.2	3[illegible].7	23.6	27.2	0.9	33.9	14+	22.2	8+	8	0	22.2	77	10[illegible]	-64	48	10	3	0	0	3.2	10	12.1	E	3	0	15	16	7.4	57
WEST VIRGINIA																																
BECKLEY	763	931.3	1018.3	23.2	11.2	17.2	2.5	28.3	29+	-3.3	10	0	3	10.6	67	26	-70	11	9	6	0	0	1.1	23	13.4	21	31	8	12	11	6.0	
CHARLESTON	286	984.1	1017.9	26.5	12.3	19.4	1.4	32.2	31	-0.6	10	1	1	10.6	61	21	-67	13	5	4	0	0	0.8	25	11.2	26	5	14	7	10	4.9	
ELKINS	594	948.2		24.8	7.2	16.0	1.4	29.4	29+	-2.8	11	0	4			50	-49	22	9		0	0						9	11	11	5.9	
HUNTINGTON	252	987.5	1017.4	27.1	13.1	20.1	2.1	32.2	20	-0.6	10	1	1	12.2	64	59	-38	14	8	6	0	0	0.5	23	10.3	34	29	11	6	14	5.9	
PARKERSBURG U	187			26.8	12.6	19.7	2.0	32.2	30+	0.6	10	4	0			35	-56	23	6		0	0			15.2	N	8					73
WISCONSIN																																
GREEN BAY	208	990.9	1016.3	24.7	10.1	17.4	4.9	31.1	19+	-2.2	9	0	3	9.4	63	63	-16	23	7	6	0	0	0.5	16	14.8	SW	20	7	15	9	5.5	75
LA CROSSE	198	991.2	1015.4	26.1	13.2	19.7	4.7	31.7	15	2.2	9	0	0	12.2	67	77	-17		10	8	0		1.4	16								
MADISON	262	984.8	1016.0	27.1	9.7	18.4	5.1	32.2	24+	-4.4	9	2	3	10.0	61	64	-23	30	9	6	0	0	1.3	18	16.1	SW	21	12	11	8	4.7	80
MILWAUKEE	205	991.9	1016.8	22.8	9.8	16.3	3.9	31.7	16	1.7	9+	0	0	9.4	66	23	-50	10	9	4	0	0	0.1	34	16.1	SW	22	12	12	7	5.0	75
WYOMING																																
CASPER	1627	833.1	1008.5	21.0	4.7	12.8	1.3	27.8	31	-0.6	5	0	1	0.6	48	49	0	38	11	5	T	0	2.1	23	14.3	24	10+	5	13	13	6.5	
CHEYENNE	1867	808.0	1008.2	19.1	4.7	11.9	0.6	25.0	31+	1.1	22+	0	0	1.1	52	64	-1	38	12	9	T	0	1.1	21	22.4	SE	10	5	11	15	6.4	60
LANDER	1696	824.6	1008.3	19.6	3.9	11.8	0.2	27.2	31	-2.2	5	0	4	-2.8	42	28	-38	13	6	4	28	T	2.1	21	17.4	SW	10	6	12	13	6.5	74
SHERIDAN	1208	873.7	1009.1	20.9	4.5	12.7	1.0	27.2	13+	-2.2	5	0	2	4.4	60	77	15	33	9	7	0	0	0.7	24	17.0	NW	15	6	10	15	7.0	63

HEATING DEGREE DAYS

(Base 65°F.)

MAY 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	5	3482	2844
HUNTSVILLE	12	3915	3302
MOBILE	0	2361	1684
MONTGOMERY	0	3003	2269
ALASKA			
ANCHORAGE	554	8842	10599
ANNETTE	462	5995	6735
BARROW	1419	19453	19305
BARTER ISLAND	1348	19575	19067
BETHEL	906	12466	12801
BETTLES	665	14237	15655
BIG DELTA	528	11225	13441
COLD BAY	789	9082	9277
FAIRBANKS	500	12519	14134
GULKANA	689	11206	13605
HOMER	712	8492	9875
JUNEAU	531	7021	8653
KING SALMON	783	10262	11153
KODIAK	710	7961	8401
KOTZEBUE	1063	14960	15394
MC GRATH	729	13646	14202
NOME	988	13214	13740
ST. PAUL ISLAND	889	10358	10396
TALKEETNA	669	10012	11402
UNALAKLEET	886	12739	13532
VALDEZ	680	8727	10131
YAKUTAT	666	7701	9074
ARIZONA			
FLAGSTAFF	540	6803	7103
PHOENIX	0	1042	1552
TUCSON	9	1630	1752
WINSLOW	189	5363	4719
YUMA	0	885	1005
ARKANSAS			
FORT SMITH	9	4093	3336
LITTLE ROCK	10	3423	3354
CALIFORNIA			
BAKERSFIELD	37	1819	2185
BISHOP	304	4071	4275
BLUE CANYON	701	4967	5507
EUREKA U	415	4328	4385
FRESNO	98	2452	2641
LONG BEACH	72	1034	1583
LOS ANGELES	115	1066	1748
LOS ANGELES U	108	913	1220
MT SHASTA R	562	5718	5712
OAKLAND	210	2403	2795
RED BLUFF	126	2137	2680
SACRAMENTO	187	2562	2823
SANDBERG R	541	4151	4311
SAN DIEGO	88	820	1455
SAN FRANCISCO	278	2904	2922
SAN FRANCISCO U	294	2561	2886
SANTA MARIA	298	2571	2886
STOCKTON	100	2328	2791
COLORADO			
ALAMOSA	440	8894	8438
COLORADO SPRINGS	192	6204	6370
DENVER	137	5500	5936
GRAND JUNCTION	94	5513	5585
PUEBLO	44	5430	5366
CONNECTICUT			
BRIDGEPORT	160	5728	5437
HARTFORD	130	6337	6326
DELAWARE			
WILMINGTON	107	5447	4940
DIST.OF COLUMBIA			
WASHINGTON DULLES	90	5451	5005
WASHINGTON NATIONAL	32	4435	4211
FLORIDA			
APPALACHICULA U	0	1986	1361
DAYTONA BEACH	0	1178	897
FORT MYERS	0	616	457
JACKSONVILLE	0	1995	1327
KEY WEST	0	95	64
LAKELAND U	0	940	678
MIAMI	0	271	206
ORLANDO	0	1026	733
PENSACOLA	0	2262	1578
TALLAHASSEE	0	2160	1563
TAMPA	0	1011	718
WEST PALM BEACH	0	404	299
GEORGIA			
ATHENS	10	3495	2975
ATLANTA	11	3832	3095
AUGUSTA	13	3071	2547
COLUMBUS	0	2894	2378
MACON	0	2826	2240
ROME	19	3861	3342
SAVANNAH	2	2441	1952
IDAHO			
BOISE	358	6124	5736
LEWISTON	266	4946	5380
POCATELLO	406	6975	6925
ILLINOIS			
CAIRO U	13	4399	3833
CHICAGO O HARE	115	6833	6452
CHICAGO MIDWAY	107	6789	6101
MOLINE	54	6948	6375
PEORIA	60	6773	6081
ROCKFORD	73	7529	6810
SPRINGFIELD	44	6229	5546
INDIANA			
EVANSVILLE	32	5263	4624
FORT WAYNE	80	6827	6186
INDIANAPOLIS	45	6343	5566
SOUTH BEND	85	6677	6427
IOWA			
BURLINGTON	51	6638	6133
DES MOINES	25	6465	6684
DUBUQUE	93	7690	7228
SIOUX CITY	24	7024	6920
WATERLOO	86	8055	7376
KANSAS			
CONCORDIA	15	5444	5601
DODGE CITY	8	4798	5025
GOODLAND	100	5944	6064
TOPEKA	11	5487	5230
WICHITA	12	4744	4680
KENTUCKY			
COVINGTON	67	6158	5061
LEXINGTON	52	5419	4721
LOUISVILLE	36	5016	4640
LOUISIANA			
ALEXANDRIA	0	2543	2200
BATON ROUGE	0	2205	1670
LAKE CHARLES	0	2048	1498
NEW ORLEANS	0	2023	1465
SHREVEPORT	0	2728	2167
MAINE			
CARIBOU	406	9893	9462
PORTLAND	354	7943	7392
MARYLAND			
BALTIMORE	62	4990	4729
MASSACHUSETTS			
BLUE HILL OBS R	214	6684	6281
BOSTON	158	5696	5594
WORCESTER	244	7298	6787
MICHIGAN			
ALPENA	294	8403	8368
DETROIT	110	6354	6202
DETROIT METRO	122	6921	6383
FLINT	152	7443	6976
GRAND RAPIDS	106	7287	6757
HOUGHTON LAKE	199	8519	8227
LANSING	137	7500	6856
MARQUETTE U	239	8464	8186
MUSKEGON	145	7319	6826
SAULT STE MARIE	318	9489	8993
MINNESOTA			
DULUTH	242	9706	9562
INTERNATIONAL FALLS	183	10436	10379
MINNEAPOLIS	75	7949	8094
ROCHESTER	90	8420	8149
ST CLOUD	112	8923	8783
MISSISSIPPI			
JACKSON	1	2927	2300
MERIDIAN	4	3147	2388
MISSOURI			
COLUMBIA REGIONAL	40	5872	5067
KANSAS CITY	22	5581	5149
ST JOSEPH	29	5689	5429
ST LOUIS	36	5514	4740
SPRINGFIELD	27	5077	4560
MONTANA			
BILLINGS	258	6434	7134
GLASGOW	233	8162	8818
GREAT FALLS	419	6570	7490
HAVRE	263	7329	8541
HELENA	443	7236	7996
KALISPELL	443	7584	8305
MILES CITY	171	7237	7772
MISSOULA	450	7504	7730
NEBRASKA			
GRAND ISLAND	15	6075	6385
LINCOLN	11	6326	6196
NORFOLK	6	6602	6944
NORTH PLATTE	81	6707	6678
OMAHA	10	6084	6029
SCOTTSBLUFF	84	6005	6683
VALENTINE	101	7267	7227
NEVADA			
ELKO	441	6674	7293
ELY	614	7670	7573
LAS VEGAS	56	2185	2601
RENO	509	5837	5877
WINNEMUCCA	450	6035	6480
NEW HAMPSHIRE			
CONCORD	259	8116	7302
MT WASHINGTON OBS	887	14071	13269
NEW JERSEY			
ATLANTIC CITY	145	5749	4937
ATLANTIC CITY U	154	5236	4678
NEWARK	89	5553	5034
TRENTON U	100	5376	4947
NEW MEXICO			
ALBUQUERQUE	61	4852	4292
CLAYTON	94	5170	5169
ROSWELL	0	3521	3697
NEW YORK			
ALBANY	205	7214	6849
BINGHAMTON	237	7760	7210
BUFFALO	207	7281	6869
NEW YORK U	100	5408	4848
NEW YORK KENNEDY	147	5692	5175
NEW YORK LA GUARDIA	115	5359	4909
ROCHESTER	204	7038	6673
SYRACUSE	209	7069	6632
NORTH CAROLINA			
ASHEVILLE	66	4797	4223
CAPE HATTERAS R	27	3065	2731
CHARLOTTE	36	3897	3218
GREENSBORO	42	4403	3825
RALEIGH	49	4271	3514
WILMINGTON	27	2982	2433
NORTH DAKOTA			
BISMARCK	164	8442	8922
FARGO	74	9082	9174
WILLISTON	149	8455	9026
OHIO			
AKRON	105	6825	6191
CINCINNATI ABBE OB	47	5650	4837
CLEVELAND	166	6975	6114
COLUMBUS	91	6593	5689
DAYTON U	63	6423	5628
MANSFIELD	128	7385	5794
TOLEDO	135	7238	6349
YOUNGSTOWN	148	7245	6384
OKLAHOMA			
OKLAHOMA CITY	7	3843	3695
TULSA	1	3932	3680
OREGON			
ASTORIA	453	4708	5040
BURNS U	551	6851	7007
EUGENE	417	4626	4606
MEDFORD	359	5010	4836
PENDLETON	301	5080	5170
PORTLAND	340	4500	4664
SALEM	400	4835	4719
SEXTON SUMMIT R	640	5272	6138
PENNSYLVANIA			
ALLENTOWN	127	6050	5806
ERIE	249	7196	6771
HARRISBURG	106	5716	5224
PHILADELPHIA	73	5342	4865
PITTSBURGH	138	6988	5904
PITTSBURGH U	94	6167	5268
SCRANTON	206	6891	6249
WILLIAMSPORT	119	6331	5958
RHODE ISLAND			
BLOCK ISLAND	278	6270	5689
PROVIDENCE	176	6282	5936
SOUTH CAROLINA			
CHARLESTON	17	2663	2146
CHARLESTON U	0	2629	1904
COLUMBIA	20	3102	2598
GRNVLLE-SPRTNBRG	19	3824	3163
SOUTH DAKOTA			
ABERDEEN	83	8106	8524
HURON	61	7926	7983
RAPID CITY	165	6878	7190
SIOUX FALLS	38	7629	7773
TENNESSEE			
BRISTOL	61	5074	4298
CHATTANOOGA	17	4075	3505
KNOXVILLE	33	4121	3478
MEMPHIS	4	3400	3227
NASHVILLE	28	4406	3696
OAK RIDGE	60	4819	3944
TEXAS			
ABILENE	0	3197	2610
AMARILLO	22	4562	4173
AUSTIN	0	2273	1737
BROWNSVILLE	0	942	650
CORPUS CHRISTI	0	1341	930
DALLAS FT WORTH	0	2927	2382
DEL RIO	0	1928	1523
EL PASO	3	3256	2678
GALVESTON	0	1724	1224
HOUSTON INTERCON	0	2245	1434
LUBBOCK	1	3798	3545
MIDLAND	0	3011	2621
PORT ARTHUR	0	1983	1518
SAN ANGELO	0	2742	2240
SAN ANTONIO	0	2158	1570
VICTORIA	0	1755	1227
WACO	2	2617	2058
WICHITA FALLS	1	3399	2904
UTAH			
MILFORD	391	6559	6330
SALT LAKE CITY	304	5724	5895
VERMONT			
BURLINGTON	223	8017	7813
VIRGINIA			
LYNCHBURG	58	4841	4233
NORFOLK	40	3818	3488
RICHMOND	42	4368	3939
ROANOKE	56	4887	4307
WALLOPS ISLAND	107	4774	4233
WASHINGTON			
OLYMPIA	415	5287	5333
QUILLAYUTE	499	5323	5657
SEATTLE	346	4272	4594
SEATTLE-TACOMA	320	4082	5018
SPOKANE	409	6506	6691
STAMPEDE PASS R	771	8165	8926
WALLA WALLA U	261	4845	4786
YAKIMA	371	5818	5915
WEST VIRGINIA			
BECKLEY	113	6260	5576
CHARLESTON	81	5554	4580
ELKINS	151	6608	5912
HUNTINGTON	67	5273	4613
PARKERSBURG U	82	5725	4809
WISCONSIN			
GREEN BAY	131	8526	8007
LA CROSSE	66	7837	7378
MADISON	110	8017	7658
MILWAUKEE	173	7655	7354
WYOMING			
CASPER	298	7137	7408
CHEYENNE	352	7115	7099
LANDER	361	7430	7719
SHERIDAN	307	7275	7540

COOLING DEGREE DAYS

(Base 65° F.)

MAY 1977

State and station	Current season		
	This month	Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	241	352	297
HUNTSVILLE	222	301	247
MOBILE	333	543	530
MONTGOMERY	308	448	384
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	[illegible]	0
BARROW	0	0	0
BARTER ISLAND	0	[illegible]	0
BETHEL	0	0	0
BETTLES	0	0	0
BIG DELTA	0	0	0
COLD BAY	0	0	0
FAIRBANKS	0	0	0
GULKANA	0	0	0
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	[illegible]	0
KODIAK	0	0	0
KOTZEBUE	0	0	0
MC GRATH	0	0	0
NOME	0	0	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	0	0
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	0	0
PHOENIX	334	690	531
TUCSON	198	336	392
WINSLOW	18	20	61
YUMA	239	527	744
ARKANSAS			
FORT SMITH	250	310	238
LITTLE ROCK	287	361	223
CALIFORNIA			
BAKERSFIELD	113	240	248
BISHOP	18	23	77
BLUE CANYON	1	1	0
EUREKA U	0	0	0
FRESNO	60	122	166
LONG BEACH	26	50	66
LOS ANGELES	0	17	38
LOS ANGELES U	18	90	110
MT SHASTA R	0	0	8
OAKLAND	0	2	0
RED BLUFF	46	100	192
SACRAMENTO	19	31	124
SANDBERG R	10	11	0
SAN DIEGO	1	17	51
SAN FRANCISCO	0	0	0
SAN FRANCISCO U	0	0	0
SANTA MARIA	0	0	0
STOCKTON	46	101	95
COLORADO			
ALAMOSA	0	0	0
COLORADO SPRINGS	0	[illegible]	6
DENVER	11	13	0
GRAND JUNCTION	60	76	47
PUEBLO	57	58	33
CONNECTICUT			
BRIDGEPORT	24	24	17
HARTFORD	93	110	18
DELAWARE			
WILMINGTON	80	105	48
DIST.OF COLUMBIA			
WASHINGTON DULLES	81	116	57
WASHINGTON NATIONAL	177	236	116
FLORIDA			
APPALACHICOLA U	258	425	528
DAYTONA BEACH	310	684	650
FORT MYERS	346	783	1000
JACKSONVILLE	255	478	526
KEY WEST	446	1390	1592
LAKELAND U	362	820	861
MIAMI	381	1145	1181
ORLANDO	324	712	815
PENSACOLA	300	495	563
TALLAHASSEE	249	459	527
TAMPA	364	803	865
WEST PALM BEACH	376	1058	1052
GEORGIA			
ATHENS	215	295	224
ATLANTA	171	225	193
AUGUSTA	250	360	309
COLUMBUS	302	475	360
MACON	296	457	418
ROME	190	277	183
SAVANNAH	289	491	428
HAWAII			
HILO	307	1392	1033
HONOLULU	396	1676	1341
KAHULUI	343	1396	1204
LIHUE	326	1366	1158
IDAHO			
BOISE	10	30	17
LEWISTON	10	44	18
POCATELLO	1	1	7
ILLINOIS			
CAIRO U	326	439	222
CHICAGO O HARE	191	230	35
CHICAGO MIDWAY	244	283	53
MOLINE	182	226	63
PEORIA	176	218	76
ROCKFORD	180	211	41
SPRINGFIELD	238	314	88
INDIANA			
EVANSVILLE	255	325	142
FORT WAYNE	177	218	48
INDIANAPOLIS	226	274	78
SOUTH BEND	206	253	40
IOWA			
BURLINGTON	167	216	78
DES MOINES	172	220	59
DUBUQUE	103	129	30
SIOUX CITY	102	123	68
WATERLOO	107	116	37
KANSAS			
CONCORDIA	113	127	94
DODGE CITY	132	157	98
GOODLAND	9	16	27
TOPEKA	176	216	125
WICHITA	152	174	155
KENTUCKY			
COVINGTON	171	200	90
LEXINGTON	206	269	118
LOUISVILLE	234	298	122
LOUISIANA			
ALEXANDRIA	367	543	366
BATON ROUGE	337	529	524
LAKE CHARLES	343	514	563
NEW ORLEANS	345	623	568
SHREVEPORT	289	393	420
MAINE			
CARIBOU	52	52	0
PORTLAND	32	33	0
MARYLAND			
BALTIMORE	124	171	70
MASSACHUSETTS			
BLUE HILL OBS R	48	56	10
BOSTON	92	106	20
WORCESTER	37	43	10
MICHIGAN			
ALPENA	36	36	6
DETROIT	137	170	33
DETROIT METRO	108	133	30
FLINT	86	98	21
GRAND RAPIDS	137	156	25
HOUGHTON LAKE	61	61	11
LANSING	124	143	26
MARQUETTE J	44	44	0
MUSKEGON	95	99	18
SAULT STE MARIE	19	19	0
MINNESOTA			
DULUTH	12	12	0
INTERNATIONAL FALLS	65	65	0
MINNEAPOLIS	145	157	26
ROCHESTER	83	101	19
ST CLOUD	101	106	14
MISSISSIPPI			
JACKSON	331	462	408
MERIDIAN	250	323	395
MISSOURI			
COLUMBIA REGIONAL	140	154	120
KANSAS CITY	154	193	132
ST JOSEPH	139	175	116
ST LOUIS	231	302	154
SPRINGFIELD	161	179	127
MONTANA			
BILLINGS	7	7	8
GLASGOW	34	35	9
GREAT FALLS	0	0	0
HAVRE	4	4	6
HELENA	0	0	0
KALISPELL	0	2	0
MILES CITY	66	74	19
MISSOULA	1	1	0
NEBRASKA			
GRAND ISLAND	85	109	59
LINCOLN	124	138	81
NORFOLK	101	131	48
NORTH PLATTE	26	28	36
OMAHA	179	224	96
SCOTTSBLUFF	45	51	16
VALENTINE	46	49	22
NEVADA			
ELKO	3	3	0
ELY	0	0	0
LAS VEGAS	149	310	372
RENO	6	6	6
WINNEMUCCA	4	4	11
NEW HAMPSHIRE			
CONCORD	57	62	8
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	51	68	25
ATLANTIC CITY U	37	43	13
NEWARK	111	135	47
TRENTON U	102	130	45
NEW MEXICO			
ALBUQUERQUE	44	44	73
CLAYTON	16	16	17
ROSWELL	269	303	154
NEW YORK			
ALBANY	66	74	27
BINGHAMTON	56	73	13
BUFFALO	68	80	14
NEW YORK U	110	135	54
NEW YORK KENNEDY	51	56	27
NEW YORK LA GUARDIA	93	103	46
ROCHESTER	80	99	22
SYRACUSE	71	84	18
NORTH CAROLINA			
ASHEVILLE	59	61	66
CAPE HATTERAS R	177	237	126
CHARLOTTE	191	243	186
GREENSBORO	175	228	146
RALEIGH	162	236	150
WILMINGTON	234	380	276
NORTH DAKOTA			
BISMARCK	70	73	11
FARGO	129	135	11
WILLISTON	74	74	7
OHIO			
AKRON	131	166	36
CINCINNATI ABBE OB	205	263	117
CLEVELAND	74	100	37
COLUMBUS	151	183	55
DAYTON U	188	228	66
MANSFIELD	84	102	52
TOLEDO	95	132	37
YOUNGSTOWN	80	112	29
OKLAHOMA			
OKLAHOMA CITY	170	216	191
TULSA	248	339	205
OREGON			
ASTORIA	[illegible]	0	0
BURNS U	3	3	5
EUGENE	0	0	0
MEDFORD	2	4	11
PENDLETON	3	19	18
PORTLAND	0	0	7
SALEM	0	0	7
SEXTON SUMMIT R	0	0	0
PACIFIC AREA			
GUAM TAGUAC R	438	1948	1985
JOHNSTON	440	1918	1857
KOROR R	563	2596	2475
KWAJALEIN	526	2575	2504
MAJURO	476	2411	2434
PAGO PAGO	454	2479	2303
PONAPE R	511	2561	2372
TRUK MOEN ISLAND	534	2553	2446
WAKE	484	1934	1960
YAP R	508	2466	2429
PENNSYLVANIA			
ALLENTOWN	99	116	38
ERIE	52	63	13
HARRISBURG	95	118	69
PHILADELPHIA	104	146	67
PITTSBURGH	83	100	46
SCRANTON	57	72	30
WILLIAMSPORT	91	109	43
RHODE ISLAND			
BLOCK ISLAND	3	3	0
PROVIDENCE	68	73	8
SOUTH CAROLINA			
CHARLESTON	263	425	343
CHARLESTON U	314	519	407
COLUMBIA	257	423	319
GRNVLLE-SPRTNBRG	226	273	193
SOUTH DAKOTA			
ABERDEEN	85	94	15
HURON	79	93	25
RAPID CITY	25	25	15
SIOUX FALLS	101	112	32
TENNESSEE			
BRISTOL	124	148	105
CHATTANOOGA	194	263	207
KNOXVILLE	188	264	208
MEMPHIS	362	508	284
NASHVILLE	253	338	201
OAK RIDGE	109	116	163
TEXAS			
ABILENE	267	301	379
AMARILLO	100	110	119
AUSTIN	324	459	544
BROWNSVILLE	476	981	1098
CORPUS CHRISTI	435	767	837
DALLAS FT WORTH	391	492	355
DEL RIO	334	525	753
EL PASO	186	225	285
GALVESTON	350	535	594
HOUSTON INTERCON	302	442	587
LUBBOCK	221	240	187
MIDLAND	359	389	324
PORT ARTHUR	391	582	553
SAN ANGELO	333	406	480
SAN ANTONIO	311	464	598
VICTORIA	376	606	666
WACO	366	487	464
WICHITA FALLS	254	292	352
UTAH			
MILFORD	2	2	10
SALT LAKE CITY	2	14	30
VERMONT			
BURLINGTON	75	82	15
VIRGINIA			
LYNCHBURG	129	172	99
NORFOLK	145	231	124
RICHMOND	148	236	129
ROANOKE	158	193	93
WALLOPS ISLAND	63	89	57
WASHINGTON			
OLYMPIA	0	0	0
QUILLAYUTE	0	0	0
SEATTLE	0	0	6
SEATTLE-TACOMA	0	0	0
SPOKANE	2	20	8
STAMPEDE PASS R	0	2	0
WALLA WALLA U	4	30	39
YAKIMA	0	5	19
WEST INDIES			
SAN JUAN P.R.	499	2123	1775
WEST VIRGINIA			
BECKLEY	58	70	24
CHARLESTON	148	216	118
ELKINS	26	33	25
HUNTINGTON	173	264	120
PARKERSBURG U	163	211	94
WISCONSIN			
GREEN BAY	87	92	12
LA CROSSE	145	186	38
MADISON	123	147	18
MILWAUKEE	65	77	13
WYOMING			
CASPER	0	0	6
CHEYENNE	0	0	0
LANDER	0	0	0
SHERIDAN	3	3	7

STORM SUMMARY

MAY 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	1	1			3			3				4																	6
Alaska											?	4															?	6	
Arizona *																													
Arkansas	4	3			4			?	?			5			8	5													
California	1	1		?	6							4														2	?	?	
Colorado	7	3			6			5	5			5	7															?	
Connecticut												4				3				6									
Delaware												4	3																
Florida	3	3			4						1	4		2	2	6													5
Georgia								1	3			1	1																
Hawaii *																													
Idaho *																													
Illinois	1	1		2	6			2	?		6	6	?		1	5										1	1	5	?
Indiana	5	4		1	4			3	3							5													
Iowa	17	4		19	7				5			5	5			4												6	
Kansas	9	5		2	6			6	7			5	6			5													6
Kentucky								3	4			5				4													
Louisiana	5	4			4			3	3			5		2															
Maine												5	3																
Maryland & DC											1	5	4		1	4													
Massachusetts															1	3				6									
Michigan	3	3			5			°3	C	4	1	°6	C		8	5												?	C
Minnesota	8	7			5			4	5		1	5	4	1	1	5													?
Mississippi	2	1			4			?	?			4	?	1		?													
Missouri	9	3	3	60	7			4	5			5			1	5													
Montana	3	2			5			4	5			5	1																
Nebraska	35	11			6			5	6			5	4			5													
Nevada *																													
New Hampshire *																													
New Jersey *																													
New Mexico	3	2		2	4			?	?																				
New York								?	?		1	?	?		?	?	?		?	?	?								
North Carolina	3	2			4				2					1	1														
North Dakota	10	5			5			3				5			1													?	
Ohio								2	3		4	4			2	5													?
Oklahoma	31	9	1	8	6			5	6		6	6	4		3	6											8	6	4
Oregon									?			?				?													
Pacific																										1	1	6	?
Pennsylvania								?	?			5	3	2	2	5	?			3									
Puerto Rico *																													
Rhode Island																				5	4								
South Carolina	1	1		5	5			3	5			4				3													
South Dakota	14	6			4			4	5			5	4			3													
Tennessee								5							1	4													
Texas	50	15			6			5	6			5	4			4												4	6
Utah *																													
Vermont																				1	1								
Virginia								4	3			5				4												3	2
Virgin Islands *																													
Washington ‡																													
West Virginia								?	?			5																	7
Wisconsin	2	1			4			6	?	1	?	4				5													?
Wyoming	2	1			3																								

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1977

Herbert J. Thompson, Office of Hydrology

The most serious flooding during May occurred in western Oklahoma where widespread flash and small stream flooding caused losses in excess of $12 million and 2 deaths. A record stage occurred on the North Fork of the Red River at Carter, OK. Widespread flash flooding also occurred in central Nebraska and southern Kansas. Among other communities affected by flash flooding were Washburn, IA, Cheyenne, WY, Ault, CO, and Miami, TX, as well as several communities in the Salt Fork of the Brazos River Basin in Texas.

The highest crest stage since 1973 occurred on the Lumber River in North Carolina with significant damage. In Alaska the ice went out with serious flooding along the Yukon and Kuskokwim Rivers and minor flooding on several other streams. Flooding continued from April on several West Gulf Drainage streams in Texas.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE		
The only flooding along the Atlantic Coast occurred in the southern portion of the drainage. Significant rainfall occurred daily from the 22d to the 29th over southeastern North Carolina and northeastern South Carolina. Totals for the period averaged about 8 inches over the Lumber and Little Pee Dee Basins, with official amounts of 4.5 inches in 24 hours on the 24th-25th and unofficial reports of up to 10 inches in 24 hours. The Lumber River crested 5 feet over flood stage at Lumberton, NC, closing factories, schools, and roads and forcing the evacuation of a number of homes. This was the worst flooding since 1973 on the Lumber River. Only minor flooding occurred along the Little Pee Dee River. The flooding on the lower Savannah River which began early in March ended on May 1. Losses were listed in the April report.	0	N.A.
EAST GULF OF MEXICO DRAINAGE		
Rainfall was generally well below normal with some stations reporting only 10% of normal. Streamflow was low and in some cases approached late summer levels. The only flooding reported during the month was on the lower Pearl River which had been in progress since late February and ended by May 3.	0	N.A.
UPPER MISSISSIPPI BASIN		
No stream flooding occurred in the Basin. Rainfall was generally below normal except for an area from the upper Minnesota River into southwest Wisconsin, which had 2 to 4 inches above normal. Sub-surface soil moisture was very deficient over most of the area, and there was little runoff from rainfall. Streamflow was generally below normal. A rare rainfall event occurred near Waterloo, IA, on the 26th where torrential rains fell between 1:30 and 3:30 p.m. causing considerable crop damage and flooding a motel and business office near Washburn, IA. A poststorm survey determined a maximum amount of over 7 inches one mile north of Washburn. If this amount of rain all fell during the two-hour period it is about twice the amount which would be expected from a 100-year recurrence interval storm and itself would have a recurrence interval of several hundred years.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
UPPER MISSISSIPPI BASIN-Cont'd		
Major flash flooding was reported in Scott County, IL, affecting 39,500 acres. Losses estimated by the Corps of Engineers include: $370,000 to roads, $1,510,000 to crops, and $1 million urban. No reporting stations exceeded flood stage.	0	2,880
MISSOURI RIVER BASIN		
Flash flooding occurred on the south edge of Cheyenne, WY, on the 1st, as a wall of water 4 to 5 feet high moved down the hills flooding U.S. Highway 85 to a depth of 9 feet and the flood plain of Crow Creek to a depth of 1 to 2 feet. Although the official rainfall measurement at Cheyenne was 1.5 inches, an unofficial measurement of 3 inches in the affected area was reported. No streams were involved. The flooding was entirely from surface flow. Mud and water damage occurred to contents of buildings in the area.	0	100
Severe flash flooding occurred around Ault, CO, the 1st. The observer at Ault reported 3.5 inches of rain in 40 minutes. This is probably a record rainfall for that period of time and locality. Roads, bridges, and crops were damaged.	0	750
In Nebraska, May was much wetter than normal with 8 to 10 inch monthly rainfall totals recorded at some points in the central and eastern portions of the State. Heavy cloudburst type of rain with amounts of 3 to 4 inches caused extensive county road and bridge damage in Cherry, Blaine, and Brown Counties on the 6th-7th. Basements were flooded in the Elsmere and Perdum areas. Flooding occurred along Goose Creek on the 6th-10th but no stage reports are received from this stream. Minor flooding was reported along the Wood and South Loup Rivers on the 9th and in the Elkhorn Basin on the 27th. County roads, bridges, and approaches were washed out in Box Butte County on the 26th with basement flooding in Hemingford.	0	N.A.
In Kansas dry soils prevented any serious flooding although widespread heavy rainfall occurred during the last half of the month. On the 16th-17th amounts of up to 5 inches fell over eastern Kansas. A sharp rise on the Marmaton River crested below flood stage. On the 19th amounts of 2 to over 6 inches occurred in 12 hours over northeast and north central Kansas. Widespread flash flooding was reported in Nemaha, Riley, Shawnee, Pottawatomie, Washington, and Waubaunsee Counties. However, none of the larger streams in the area exceeded flood stage, although the Black Vermillion River was reported 3.5 feet over bankfull near Centralia. Significant crop and road damage was reported near Eskridge. Near the end of the month amounts up to 2.5 inches fell over central Kansas. With soils now near saturation a crest nearly 3 feet over flood stage occurred on Lyons Creek near Woodbine and minor flooding was reported at Paxico on Mill Creek.	0	N.A.
WHITE BASIN		
The only flooding was on the Cache River which continued from late April and lasted until the 6th.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ARKANSAS - RED RIVER BASINS		
Rainfall was much above normal over the middle portion of the Arkansas Basin and upper Red River Basin in the Texas Panhandle, western Oklahoma and southern Kansas. Monthly totals ranged up to at least 300% of normal in the western portion of the area with the greatest amount being 14.0 inches at Allison, TX. These storms produced widespread flash, urban, and small stream flooding but most larger streams crested below flood stage or recieved only minor flooding. Many headwater reservoirs in the area filled from near empty to above normal levels.		
In southern Kansas flooding began on the 1st when Great Bend received 3 inches of rain in one hour causing extensive street flooding. On the 9th, rains of up to 6 inches occurred in Barton and Rush Counties. Heavy rains of 3 to 4 inches fell over south central Kansas on the 20th-21st, and on the 22d rains of 2.5 to over 4 inches over the same general area, closing many roads between Greensburg and Mullinsville and Highway 59 near Kingman where some people were evacuated. The South Fork Ninnescah River crested 2 feet over flood stage at Murdock and 1 to 3 feet of flooding occurred along the Chikaskia River.	0	N.A.
During the period of the 16th-23d numerous reports of 6 to 8 inch rainfalls in 3 hours or less were received from communities along a 100-mile wide path from southwestern Oklahoma into south central Kansas. Severe flooding occurred on numerous small streams in seven counties. Estimates of losses to roads and bridges were between $1 and 2 million for each of the affected counties. Losses of more than a million dollars were reported to flood control, drainage, water supply and other structures in Oklahoma City and its suburban areas. Kingfisher Creek crested more than a foot over flood stage at Kingfisher, OK, blocking State Highway 3 and U.S. Highway 81 and affecting 150 residences. Two flood-related deaths occurred when an auto drove into a washed out culvert near Binger, OK. Up to 2 feet of flooding occurred along the Cimarron River and the Little River crested more than 4 feet over flood stage at Tecumseh, OK. In the Red Basin a record stage of 15.0 feet was reached on the North Fork of the Red at Carter, OK, exceeding the previous record of May 1959 by 1.6 feet. This abnormally high stage was caused by backwater from debris lodged against a bridge below the gage. This backwater caused an erroneous estimate of inflow into Altus Reservoir necessitating high releases from the reservoir with more than 6 feet of flooding downstream at Headrick, OK. Along the Washita River the most severe flooding occurred in the upper reach with three periods of flooding and crests up to 8 feet over flood stage. Less serious flooding occurred downstream on the Washita.	2	12,000
Severe flooding occurred in Roberts County, Texas, as a result of 8 to 10 inch rains on the 17th-20th. The area around Miami, TX, was hardest hit with flooding along Coon Hollar and Red Deer Creeks. Numerous county road crossings were destroyed or heavily damaged as well as range land, stock fences, and some bridges and underpasses along the Santa Fe Railroad. An earth fill conservation dam on Coon Hollar Creek spilled for the first time since its construction in 1962 and suffered severe damage from settling but did not fail as emergency measures were taken to lower the	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

MAY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ARKANSAS - RED RIVER BASINS-Cont'd		
spillway and reduce pressure on the dam. The Canadian River crested above flood stage three times on successive days at Canadian, TX, by amounts of up to a foot over flood stage.		
WEST GULF OF MEXICO DRAINAGE		
Flooding on larger streams in this area was generally a continuation of that which resulted from heavy rains in April. Streams affected included the Mermentau River in Louisiana and portions of the Sabine, Angelina, Neches, Trinity, and lower Guadalupe and Nueces Rivers in southern Texas. Crests were in April and most streams had fallen below flood stage by the middle of May. On the lower Nueces two brief periods of minor flooding occurred due to releases from Lake Corpus Christi. Moderate flooding occurred early in May on the Calcasieu River with a crest at Hineston, LA, approaching 4 feet over flood stage.	0	N.A.
Several instances of severe local and small stream flooding occurred in Texas during May as rainfall was well above normal over the southern Plains. Extensive agricultural damage was reported but much of it was from rainfall rather than flooding. On the 11th in the San Angelo area, Dove Creek crested at 17.6 feet near Knickerbocker, and Spring Creek crested at 10.5 feet above Tankersley. Flood stage has not been established at either site. Widespread flooding occurred along tributaries of the Salt Fork of the Brazos River as a result of 6 to 8 inch rains on the 18th-19th. Among the communities affected were Dickens, Spur, and Afton. Some families were evacuated. The Salt Fork crested below flood stage. On the 26th rains of 3 to 4 inches in about one hour caused widespread urban flooding in Lubbock. Damage was mainly to automobiles.	0	N.A.
GREAT BASIN		
Flash flooding on Stone Creek damaged basements of two homes in Bountiful, UT, on the 26th.	0	10
ALASKA		
The ice went out on the interior Alaska streams in rapid succession with a very smooth breakup occurring on the Chena River on the 3d through the 8th, the upper Yukon River from Eagle to Tanana on the 5th through the 15th, and on the Kuskokwim River from Nikolai to Tuluksak on the 7th through the 14th. During this period only minor flooding occurred at the village of Birch Creek near Fort Yukon. Rapid snowmelt and ice jamming caused serious flooding as breakup moved to the middle and lower reaches of the Yukon and Kuskokwim Rivers. At Galena, waters backed up by an ice jam 30 miles downstream rose to 6 feet above flood stage. The flood forced the evacuation of 177 Air Force personnel on the 17th, all military aircraft and munitions, and 250 citizens of Galena as flood waters covered 80% of the town. The jam causing the flood at Galena broke late on the 17th and by the 23d there were 300 miles of moving ice on the	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)

ALASKA-Cont'd

Yukon River, from Grayling to Pilot Station, converging on the Delta villages. Minor flooding occurred at the villages of Pilot Station, St. Marys, Alakanuk, and Emmonak on the lower Yukon River. The last of the Yukon River ice went out to sea on June 1.

The Kuskokwim River ice finally jammed at the town of Bethel on the 23d and inundated parts of the town with 4 feet of water. The flood waters crested at 13 feet. Flood stage at Bethel is 9 feet. The ice collapsed a bridge isolating 100 persons from the main part of town. Damage to the bridge was placed at $200,000. Flood waters from this ice jam extended 20 miles upstream covering the towns of Kwethluk and Akiachak. As the ice moved into the Kuskokwim Delta, the Alaska National Guard evacuated 162 women and children from the flooded villages of Napakiak and Oscarville. The ice finally moved out into the Kuskokwim Bay on the 25th.

On the Kenai Peninsula there were floods on the Anchor River and an immense landslide on Snow River caused by heavy rain during the spring thaw on the 18th and 19th. Seward received over 5 inches of rainfall which triggered the landslide on Snow River. Some 30 acres of timber came down the mountain along with thousands of cubic yards of earth. One span of the highway bridge was carried 300 yards away. Fortunately, no one was on or near the bridge at the time. On the 19th, the Anchor River rose out of its banks and caused minor flooding for two days in the camp grounds and considerable erosion loss at one home site.

Minor flooding from ice jams also occurred at Gakona on the Copper River and at Manley Hot Springs on the Tanana River.

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages —dates		Crest	
		From	To—	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
St. John:					
Fort Kent, ME	20	Apr 23	Apr 26	21.99	Apr 24
Lumber:					
Lumberton, NC	9	25	1	14.08	26-27
Little Pee Dee:					
Galivants Ferry, SC	9	29	1/	10.4	31
Savannah:					
Clyo, GA	11	Mar 10	1	15.7	Apr 15
EAST GULF OF MEXICO DRAINAGE					
Pearl:					
Bogalusa, LA	15	Feb 26	3	A20.13	Apr 22
Pearl River, LA	12	Mar 6	2	AE16.7	Apr 24
MISSOURI RIVER BASIN					
South Loup River:					
Ravenna, NE	5	9	9	5.5	9
Lyons Creek:					
Woodbine, KS	17	30	30	19.7	30
Mill Creek:					
Paxico, KS	19	30	30	19.1	30
WHITE BASIN					
Cache:					
Patterson, AR	7	Apr 28	6	8.0	Apr 30
ARKANSAS RIVER BASIN					
South Fork Ninnescah:					
Murdock, KS	8	22	23	9.76	23
Chikaskia:					
Corbin, KS	10	24	24	10.85	24
Blackwell, OK	26	24	25	27.7	24
Salt Fork:					
Great Salt Plains Lake, OK	11.5	1	31	1127.3	26
Kingfisher Creek:					
Kingfisher, OK	22	21	22	23.3	22
Cimmarron:					
Waynoka, OK	8	21	21	8.36	21
Dover, OK	17	21	23	#19.00	21
Guthrie, OK	10	21	21	#10.0	21
Perkins, OK	12	22	22	#13.8	22
Polecat Creek:					
Heyburn Lake, OK	761.5	20	31	764.4	20
Caney:					
Hulah Reservoir, OK	733	2 21	6 31	733.3 744.7	3 25
Verdigris:					
Inola, OK	42	24	24	42.0	24
Little:					
Tecumseh, OK	11	21	21	15.4	21
Canadian:					
Canadian, TX	8	17 18 20 31	18 19 21 31	8.31 9.03 8.94 8.0	17 18 20 31
RED RIVER BASIN					
North Fork Red:					
Carter, OK	11	16	18	15.0	17
Headrick, OK	11	5 18	7 31	13.3 17.3	6 28
RED RIVER BASIN-Cont'd					
Beaver Creek:					
Waurika, OK	872	22	23	873.0	23
Washita:					
Clinton, OK	18	17 U 26	17 U 26	21.0 26.0 19.0	17 21 26
Carnegie, OK	18	21 27	24 30	22.9 23.7	22 28
Anadarko, OK	19	U 30	U 31	19.0 19.6	22 31
Durwood, OK	27	21	22	29.4	22
WEST GULF OF MEXICO DRAINAGE					
Mermentau:					
Mermentau, LA	5	Apr 20	2	9.28	Apr 25
Calcasieu:					
Hineston, LA	12	2	8	15.70	4
Sabine:					
Mineola, TX	14	Mar 28	1	18.04	Apr 1
Gladewater, TX	26	Apr 18	1	29.70	Apr 24
Longview, TX	25	Apr 24	5	26.25	Apr 24
Angelina:					
Lufkin, TX (near)	8	Mar 29	9	A 9.91	Apr 18
Neches:					
Alto, TX (near)	16	Apr 1	4	18.22	Apr 23
Diboll, TX (near)	10	Feb 7	14	A13.85	Apr 28
Trinity:					
Long Lake, TX	35	Apr 2	2	42.66	Apr 5
Liberty, TX	24	Apr 10	11	27.95	Apr 24
Moss Bluff, TX	4	Apr 1	18	# 8.4	Apr 25,26
Guadalupe:					
Victoria, TX	21	Apr 16	5	30.20	Apr 24
Dupont, TX	20	Apr 17	29	27.6	Apr 25
Nueces:					
Tilden, TX	14	31	1/	14.94	Jun 1
Mathis Bridge, TX	15	1	1	15.0	1
Calallen, TX	7	Apr 15 12 22	5 17 23	9.6 7.7 7.1	Apr 22 16 22
ALASKA					
Koskokwim:					
Bethel	9	23	25	13.0	23
Yukon:					
Galena	124	16	18	130.0	17

A See Previous Monthly Reports for Additional Crest Information.

RAWINSONDE DATA

Average monthly values

MAY 1977

ALBANY, NY
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	86	11.9	7.5	29	.5
1000	26	157	11.9	5.6	29	1.2
950	31	568	11.7	3.4	32	5.1
900	31	1,019	9.3	[illegible]	32	6.4
850	31	1,491	6.9	-2.5	32	7.7
800	31	1,987	4.4	-5.7	32	9.1
750	31	2,510	1.9	-9.9	32	9.8
700	31	3,064	-1.1	-12.5	32	11.2
650	31	3,652	-4.3	-15.9	31	12.[illegible]
600	31	4,279	-7.5	-20.0	31	13.9
550	31	4,951	-11.6	-24.5	31	15.5
500	31	5,675	-16.1	-29.7	31	16.0
450	31	6,461	-21.4	-34.4	31	15.9
400	31	7,318	-28.1	-39.3	31	17.0
350	31	8,265	-35.[illegible]	-44.4	31	18.8
300	31	9,317	-43.7	-49.3	31	18.3
250	31	10,518	-52.8		31	20.0
200	29	11,922	-58.6		31	21.2
175	29	12,758	-59.7		31	17.6
150	29	13,724	-58.3		30	14.4
125	29	14,874	-57.9		31	11.1
100	28	16,276	-58.8		32	8.2
80	29	17,682	-57.4		32	[illegible]
70	28	18,527	-57.0		34	3.0
60	28	19,506	-55.6		36	2.7
50	27	20,672	-54.5		06	1.2
40	27	22,105	-53.5		09	1.3
30	27	23,961	-52.2		10	3.4
25	26	25,148	-51.1		10	3.6
20	26	26,607	-48.[illegible]		09	3.8
15	24	28,515	-45.6		09	3.[illegible]
10	17	31,227	-39.9		08	3.1
7						
5						

ALBUQUERQUE, NM
835 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	1,619	11.9	-4.2	13	.7
1000						
950						
900						
850						
800	31	1,981	12.5	-5.0	29	1.4
750	31	2,519	9.0	-7.5	27	3.9
700	31	3,085	4.6	-10.3	25	6.6
650	31	3,684	.1	-13.7	23	8.5
600	31	4,320	-4.6	-17.8	23	11.3
550	31	4,999	-9.1	-22.2	23	14.0
500	31	5,729	-14.4	-28.0	23	14.7
450	31	6,519	-19.8	-34.3	23	15.6
400	31	7,382	-26.3	-39.5	23	17.3
350	31	8,337	-33.5	-45.7	23	19.5
300	31	9,396	-42.0	-52.6	23	21.4
250	31	10,605	-51.4		24	22.1
200	31	12,027	-59.0		24	20.8
175	31	12,863	-60.2		24	19.4
150	31	13,825	-59.4		24	17.6
125	31	14,967	-59.6		24	15.8
100	31	16,361	-60.6		24	9.6
80	30	17,745	-62.8		21	5.0
70	30	18,567	-62.2		22	2.0
60	30	19,526	-59.8		10	1.5
50	29	20,667	-58.5		10	2.5
40	29	22,077	-56.5		07	2.2
30	29	23,918	-53.1		05	2.0
25	28	25,101	-51.3		06	1.9
20	27	26,561	-48.5		07	1.4
15	27	28,469	-45.2		02	1.1
10	19	31,208	-39.5		33	.6
7	7	33,696	-35.3			
5						

AMARILLO, TX
888 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	1,095	15.0	12.5	19	4.0
1000						
950						
900						
850	31	1,467	15.6	8.3	21	9.9
800	31	1,981	14.2	[illegible]	22	10.0
750	31	2,523	11.3	-4.9	23	8.6
700	31	3,094	7.0	-8.8	24	8.9
650	31	3,699	2.2	-11.0	24	9.2
600	31	4,339	-3.0	-16.1	24	9.4
550	31	5,022	-7.9	-20.4	25	10.7
500	31	5,755	-13.3	-26.0	25	11.4
450	31	6,549	-18.8	-31.2	24	12.0
400	31	7,415	-25.3	-37.3	24	12.7
350	31	8,373	-32.7	-43.5	24	14.3
300	31	9,437	-41.3	-50.0	24	15.7
250	31	10,651	-50.4		24	18.4
200	31	12,076	-59.5		25	19.9
175	30	12,899	-62.3		25	20.7
150	30	13,853	-61.4		24	18.9
125	30	14,987	-60.4		25	14.0
100	30	16,375	-61.4		24	9.0
80	29	17,749	-64.3		23	6.4
70	29	18,567	-63.6		24	2.1
60	29	19,519	-61.0		09	.9
50	29	20,659	-58.9		07	2.0
40	28	22,065	-56.9		08	2.2
30	28	23,903	-53.4		06	2.1
25	28	25,081	-51.8		07	1.2
20	28	26,536	-49.4		08	1.5
15	28	28,437	-45.9		32	.6
10	26	31,173	-40.3		21	.1
7	16	33,627	-35.8		25	1.2
5						

• ANCHORAGE, AK
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	45	5.7	1.2	19	2.0
1000	25	108	5.3	-.8	18	2.9
950	31	501	3.4	-2.2	18	2.6
900	31	938	.5	-4.4	17	2.1
850	31	1,394	-3.1	-6.2	14	3.7
800	31	1,871	-6.4	-8.8	14	4.8
750	31	2,373	-9.7	-13.0	14	5.3
700	31	2,902	-12.8	-17.0	15	6.0
650	31	3,465	-15.7	-21.7	15	6.4
600	31	4,064	-19.2	-25.0	15	6.3
550	31	4,707	-23.2	-30.2	16	6.1
500	31	5,398	-28.1	-35.1	16	6.5
450	31	6,146	-33.[illegible]	-39.8	16	7.0
400	31	6,963	-39.2	-44.1	16	7.7
350	31	7,868	-45.[illegible]		17	7.7
300	31	8,882	-50.4		17	7.0
250	31	10,075	-48.4		19	6.2
200	31	11,553	-46.1		19	6.0
175	31	12,443	-45.6		19	5.1
150	31	13,470	-46.0		18	4.3
125	31	14,680	-47.0		18	4.3
100	31	16,154	-48.3		18	3.9
80	31	17,620	-49.1		16	3.2
70	31	18,496	-49.2		15	3.6
60	31	19,507	-49.4		14	3.4
50	31	20,701	-49.9		13	3.7
40	31	22,160	-49.9		12	4.3
30	30	24,042	-49.4		10	5.3
25	30	25,240	-48.5		09	6.9
20	30	26,713	-47.2		09	7.8
15	26	28,625	-44.3		09	8.3
10	25	31,383	-38.6		08	8.7
7	15	33,918	-32.4			
5						

• ANNETTE, AK
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	37	6.4	2.9	06	.5
1000	26	118	6.9	2.6	02	1.0
950	31	520	4.7	.3	13	1.7
900	31	958	1.9	-2.4	16	3.7
850	31	1,417	-1.1	-5.6	16	4.7
800	31	1,898	-4.1	-8.6	16	4.1
750	31	2,405	-7.0	-12.[illegible]	17	4.0
700	31	2,940	-10.3	-16.6	18	4.5
650	31	3,508	-13.3	-20.4	18	5.2
600	31	4,112	-17.3	-25.5	18	5.9
550	31	4,760	-21.5	-30.3	19	6.7
500	31	5,456	-26.1	-35.2	18	7.6
450	31	6,211	-31.2	-40.1	17	8.6
400	31	7,035	-36.9	-44.5	17	8.8
350	31	7,950	-43.1	-49.0	17	8.5
300	31	8,972	-48.6		18	8.4
250	31	10,167	-49.8		19	6.1
200	31	11,631	-48.5		21	4.9
175	31	12,509	-48.5		20	4.2
150	31	13,523	-48.8		19	4.9
125	31	14,719	-49.8		19	4.4
100	30	16,176	-51.2		18	4.5
80	30	17,624	-52.2		17	3.9
70	30	18,487	-52.7		17	3.1
60	30	19,482	-53.0		15	2.8
50	30	20,657	-53.4		13	2.6
40	29	22,094	-52.7		10	4.1
30	27	23,960	-52.2		10	5.5
25	26	25,144	-51.6		09	6.2
20	23	26,599	-49.6		10	7.3
15	22	28,498	-46.5		09	8.0
10	21	31,239	-39.5		09	9.0
7	14	33,737	-34.1		09	9.4
5	5	36,097	-29.8			

ATHENS, GA
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	246	15.6	13.0	03	1.1
1000						
950	31	589	18.5	11.1	11	1.1
900	31	1,052	16.0	8.6	14	1.2
850	31	1,535	12.8	6.0	19	.8
800	31	2,042	9.3	3.0	25	.7
750	31	2,575	6.2	-1.8	28	1.0
700	31	3,137	2.9	-6.1	31	1.8
650	31	3,734	-.4	-10.8	30	2.2
600	31	4,370	-4.0	-14.7	29	3.0
550	31	5,052	-8.1	-21.[illegible]	29	3.5
500	31	5,786	-12.9	-26.7	30	4.4
450	31	6,581	-18.2	-31.0	29	5.6
400	31	7,450	-24.3	-37.2	29	6.1
350	31	8,412	-31.5	-43.5	29	7.4
300	31	9,481	-40.3	-50.7	30	7.4
250	31	10,698	-50.1		30	9.8
200	31	12,123	-59.8		29	11.8
175	31	12,950	-63.3		30	11.8
150	31	13,897	-62.8		29	12.3
125	31	15,022	-62.2		29	12.4
100	31	16,398	-63.5		30	10.6
80	31	17,764	-64.5		31	7.1
70	31	18,582	-63.5		32	4.6
60	31	19,535	-60.[illegible]		35	2.6
50	31	20,678	-57.5		03	1.5
40	31	22,096	-55.1		07	2.[illegible]
30	30	23,945	-52.6		09	4.1
25	29	25,128	-51.0		08	3.0
20	29	26,589	-48.[illegible]		09	2.0
15	24	28,508	-44.8		28	.1
10	23	31,253	-39.3		07	.5
7	17	33,681	-35.3			
5						

• BARROW, AK
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	8	-8.2	-9.3	08	4.1
1000	31	130	-8.4	-9.0	08	5.2
950	31	529	-6.9	-10.2	09	5.9
900	31	953	-5.2	-13.7	09	5.3
850	31	1,401	-6.2	-16.3	11	3.9
800	31	1,874	-8.0	-17.1	12	3.3
750	31	2,373	-10.6	-20.3	14	2.8
700	31	2,901	-13.3	-23.3	15	3.2
650	31	3,462	-16.6	-26.0	16	3.5
600	31	4,059	-20.3	-30.0	18	4.1
550	31	4,699	-24.3	-34.2	18	4.1
500	31	5,387	-28.9	-38.7	18	4.9
450	31	6,133	-34.1	-42.7	18	5.7
400	31	6,947	-40.2	-44.2	18	6.0
350	31	7,848	-46.7		18	5.8
300	31	8,855	-51.4		18	6.2
250	31	10,044	-48.5		19	5.1
200	31	11,522	-45.9		19	4.6
175	31	12,411	-45.6		19	4.5
150	31	13,438	-45.8		18	4.1
125	31	14,653	-46.1		18	3.9
100	31	16,135	-46.6		18	3.9
80	30	17,611	-46.9		17	3.9
70	30	18,496	-46.8		15	3.6
60	29	19,520	-46.8		15	4.1
50	29	20,729	-46.8		14	3.7
40	25	22,198	-47.1		12	4.2
30	22	24,101	-46.8		11	4.9
25	20	25,285	-46.6		10	4.8
20	12	26,750	-46.1			
15						
10						
7						
5						

BARTER ISLAND, AK
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	15	-7.0	-7.9	10	1.7
1000	31	114	-7.0	-7.[illegible]	09	2.2
950	31	515	-5.5	-8.0	10	3.5
900	31	942	-2.3	-9.7	11	2.2
850	31	1,396	-3.1	-12.[illegible]	12	1.1
800	31	1,874	-5.3	-14.8	19	1.2
750	31	2,378	-7.8	-17.8	22	2.1
700	31	2,912	-10.9	-21.[illegible]	23	3.0
650	31	3,477	-14.4	-24.2	23	3.4
600	31	4,080	-17.9	-28.[illegible]	22	3.5
550	31	4,725	-22.2	-31.9	22	4.5
500	31	5,419	-27.1	-36.9	22	5.5
450	31	6,170	-32.6	-41.0	22	6.2
400	31	6,989	-38.6	-43.[illegible]	22	7.5
350	31	7,897	-45.1		22	9.2
300	31	8,910	-50.6		22	9.7
250	30	10,105	-49.7		21	8.5
200	30	11,579	-45.9		20	6.3
175	30	12,470	-45.3		20	6.2
150	30	13,498	-45.6		20	5.3
125	30	14,712	-46.2		19	5.6
100	29	16,196	-46.8		18	5.0
80	29	17,673	-47.3		18	4.3
70	29	18,557	-46.9		17	4.2
60	29	19,579	-46.9		16	3.8
50	29	20,786	-47.2		14	3.9
40	29	22,265	-47.0		12	4.4
30	29	24,172	-46.6		11	5.9
25	29	25,383	-46.2		10	6.6
20	29	26,871	-44.9		10	7.6
15	29	28,803	-42.8		09	8.0
10	27	31,564	-38.7		09	9.8
7	21	34,011	-35.5		09	8.9
5	11	36,403	-31.2			

BETHEL, AK
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	39	.0	-1.8	22	1.0
1000	22	106	.1	-2.0	22	1.7
950	31	481	-.6	-4.2	19	3.1
900	31	912	-3.0	-6.9	19	3.8
850	31	1,362	-5.2	-11.2	19	3.0
800	31	1,836	-7.8	-13.8	18	3.2
750	31	2,336	-10.5	-16.8	17	3.5
700	31	2,864	-13.6	-20.5	18	3.7
650	31	3,424	-16.9	-23.3	18	3.7
600	31	4,020	-20.5	-27.5	17	3.7
550	31	4,659	-24.7	-32.3	17	3.7
500	31	5,346	-29.6	-37.5	17	3.5
450	31	6,090	-34.6	-43.3	18	3.8
400	31	6,903	-40.4	-45.8	18	3.7
350	31	7,805	-46.2		20	2.9
300	31	8,816	-50.0		22	2.9
250	30	10,011	-47.8		21	2.3
200	30	11,496	-45.1		19	3.1
175	30	12,388	-45.3		21	3.2
150	29	13,413	-45.8		19	3.0
125	29	14,625	-46.7		19	3.4
100	29	16,101	-48.0		18	2.7
80	29	17,568	-49.1		15	2.5
70	29	18,445	-49.2		15	2.4
60	29	19,455	-49.5		14	3.0
50	29	20,650	-49.3		12	3.5
40	29	22,111	-49.9		11	4.2
30	28	23,996	-49.7		10	5.0
25	27	25,192	-49.1		09	6.5
20	25	26,664	-47.5		09	7.5
15	22	28,593	-44.3		09	8.3
10	11	31,294	-39.9			
7						
5						

• BISMARCK, ND
952 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	503	11.2	7.1	14	1.1
1000						
950	18	551	10.6	5.0	13	.8
900	31	974	14.1	6.0	19	5.0
850	31	1,455	12.2	2.6	20	4.7
800	31	1,961	9.4	-1.3	21	5.3
750	31	2,494	6.1	-5.0	21	6.1
700	31	3,055	2.3	-9.1	22	6.7
650	31	3,650	-1.6	-12.5	22	7.7
600	31	4,282	-6.1	-16.4	22	8.1
550	31	4,957	-10.8	-22.2	22	9.6
500	31	5,683	-15.7	-26.8	22	10.7
450	31	[illegible],470	-20.9	-31.9	22	11.7
400	31	7,329	-27.5	-38.1	22	13.4
350	31	[illegible],278	-34.6	-44.3	21	14.5
300	31	9,334	-43.1		21	14.6
250	31	10,539	-51.6		21	15.9
200	31	11,966	-57.3		22	15.7
175	31	12,807	-58.2		22	12.0
150	31	13,783	-55.8		22	8.3
125	31	14,943	-55.9		22	6.1
100	31	16,362	-56.7		23	3.4
80	31	17,772	-57.7		27	1.1
70	31	18,615	-57.6		35	.4
60	31	19,590	-56.9		04	1.1
50	31	20,747	-56.2		07	3.1
40	31	22,170	-54.9		08	4.5
30	29	24,013	-53.[illegible]		08	5.5
25	29	25,191	-51.[illegible]		08	5.7
20	26	26,654	-48.8		08	6.5
15	22	28,555	-45.7		09	6.1
10	15	31,320	-39.3		10	6.4
7	7	33,870	-34.0			
5						

BOISE, ID
911 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	871	7.0	1.5	16	.5
1000						
950						
900	31	973	[illegible].4	1.2	29	.4
850	31	1,445	7.1	-1.5	30	1.5
800	31	1,941	[illegible].6	-3.6	29	1.8
750	31	2,461	-.2	-6.[illegible]	26	2.8
700	31	3,009	-4.2	-10.0	25	4.7
650	31	3,589	-8.3	-13.8	24	6.7
600	31	4,206	-12.6	-18.5	23	8.3
550	31	4,865	-16.[illegible]	-24.4	21	10.2
500	31	5,574	-21.2	-29.6	22	11.4
450	31	6,344	-26.4	-34.[illegible]	22	11.7
400	31	7,185	-32.7	-40.1	22	12.5
350	31	8,114	-39.7	-43.5	21	14.1
300	31	9,148	-47.1		21	15.4
250	31	10,342	-51.6		22	14.5
200	31	11,787	-52.5		22	11.6
175	31	12,653	-51.0		22	10.4
150	31	13,656	-51.3		22	8.1
125	31	14,839	-52.3		21	6.4
100	31	16,276	-54.2		20	4.4
80	31	17,703	-55.8		18	3.1
70	31	18,551	-56.8		17	2.0
60	31	19,528	-56.7		12	1.6
50	31	20,684	-56.7		10	2.5
40	30	22,101	-55.8		10	3.7
30	30	23,941	-53.9		09	4.0
25	30	25,117	-52.2		07	4.4
20	28	26,573	-49.7		08	5.2
15	26	28,471	-46.4		09	4.7
10	26	31,203	-40.0		09	6.0
7	17	33,635	-35.5		09	4.9

BOOTHVILLE, LA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	29	1	21.6	19.5	13	1.0
1000	29	133	22.3	18.5	13	1.7
950	29	578	19.7	13.[illegible]	14	2.5
900	29	1,043	17.1	8.1	14	3.1
850	29	1,528	13.9	6.0	13	3.9
800	29	2,037	11.3	1.3	14	3.2
750	29	2,575	9.2	-4.7	16	1.4
700	29	3,143	5.9	-8.9	29	1.2
650	29	3,746	2.4	-11.8	32	2.5
600	29	4,388	-1.4	-16.0	32	3.8
550	29	5,076	-5.9	-19.1	32	5.2
500	29	5,816	-10.7	-25.5	31	6.2
450	29	6,618	-16.1	-29.[illegible]	30	6.8
400	29	7,494	-22.4	-34.2	30	7.9
350	29	8,464	-29.5	-40.1	29	10.0
300	29	9,543	-37.9	-49.7	29	14.1
250	29	10,773	-47.7		29	16.5
200	29	12,212	-58.1		29	22.6
175	29	13,046	-61.6		29	22.1
150	29	13,997	-62.7		29	20.6
125	29	15,122	-62.6		29	16.1
100	29	16,488	-65.8		29	11.3
80	29	17,839	-66.9		29	4.6
70	29	18,648	-66.0		32	2.2
60	29	19,591	-62.6		04	2.3
50	29	20,727	-58.5		06	4.2
40	28	22,141	-54.9		08	5.8
30	28	23,997	-51.0		08	5.8
25	27	25,190	-49.0		08	4.4
20	27	26,663	-46.2		08	2.8
15	25	28,586	-42.9		04	1.2
10	24	31,346	-37.4		33	2.2
7	9	33,857	-34.5			

• BROWNSVILLE, TX
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	7	23.4	21.4	15	3.4
1000	31	100	23.4	21.[illegible]	15	5.3
950	31	547	20.9	18.3	16	9.9
900	31	1,015	19.8	11.4	17	9.2
850	31	1,507	18.3	[illegible].1	17	7.1
800	31	2,026	16.7	-1.[illegible]	18	5.3
750	31	2,572	13.7	-4.2	20	3.0
700	31	3,149	9.8	-8.3	26	1.6
650	31	3,760	5.4	-9.[illegible]	30	3.3
600	31	4,408	.5	-13.4	31	5.5
550	31	5,099	-4.9	-16.4	30	7.4
500	30	5,841	-10.0	-20.5	29	7.9
450	30	6,646	-15.2	-26.9	28	8.9
400	30	7,526	-21.4	-31.0	28	11.5
350	30	8,500	-28.4	-38.7	28	14.5
300	30	9,583	-37.1	-47.1	28	17.7
250	30	10,817	-46.8		28	23.1
200	30	12,259	-57.9		28	30.5
175	30	13,090	-63.4		28	30.5
150	30	14,030	-65.8		28	26.7
125	30	15,134	-67.0		27	19.3
100	30	16,471	-69.8		27	10.1
80	29	17,792	-71.6		24	2.6
70	29	18,584	-69.5		11	1.9
60	29	19,516	-63.8		10	5.2
50	28	20,645	-60.5		09	7.2
40	28	22,048	-56.5		08	7.5
30	27	23,894	-51.3		08	9.1
25	27	25,084	-49.4		08	9.9
20	27	26,555	-47.0		09	8.1
15	26	28,476	-42.6		09	6.7
10	23	31,236	-37.8		11	4.8
7	12	33,690	-35.0			

BUFFALO, NY
992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	218	11.1	6.8	20	.9
1000						
950	31	581	13.4	3.3	29	2.5
900	31	1,035	11.5	.7	31	3.9
850	31	1,511	[illegible].9	-2.[illegible]	31	6.2
800	31	2,011	6.6	-4.[illegible]	31	7.8
750	31	2,538	3.5	-6.9	31	8.8
700	31	3,095	.2	-9.9	31	9.2
650	31	3,686	-3.1	-14.7	31	10.0
600	31	4,315	-6.6	-19.9	31	10.3
550	31	4,990	-10.6	-24.5	31	10.4
500	31	5,717	-15.3	-27.8	31	11.2
450	31	6,504	-20.7	-33.8	31	12.2
400	31	7,364	-27.5	-39.1	30	13.5
350	31	8,313	-34.7	-44.8	31	14.0
300	31	9,369	-42.9	-51.6	31	16.0
250	31	10,575	-51.6		31	17.1
200	30	11,992	-59.0		31	17.1
175	30	12,825	-61.0		32	16.8
150	30	13,785	-59.6		31	12.2
125	30	14,928	-59.2		31	11.1
100	30	16,328	-58.7		32	8.9
80	30	17,728	-58.6		32	5.6
70	30	18,570	-57.5		34	4.7
60	30	19,546	-56.3		35	3.6
50	30	20,709	-54.8		03	2.2
40	28	22,147	-53.6		07	2.3
30	28	24,002	-52.4		08	2.7
25	27	25,183	-50.7		06	2.7
20	26	26,649	-48.6		08	3.8
15	25	28,560	-45.1		09	4.4
10	16	31,359	-37.4		08	6.0
7						

CAPE HATTERAS, NC
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg.	Speed m p s
SFC	31	4	18.6	15.8	36	.6
1000	31	152	19.3	14.3	31	.3
950	31	592	17.1	10.8	31	1.9
900	31	1,052	14.3	7.2	32	2.3
850	31	1,533	11.5	3.5	32	3.2
800	31	2,038	[illegible].5	.0	31	3.8
750	31	2,568	5.2	-3.7	30	4.3
700	31	3,129	2.3	-9.4	30	5.3
650	31	3,725	-.9	-13.8	30	5.5
600	31	4,359	-4.[illegible]	-17.7	29	6.1
550	31	5,039	-8.5	-23.5	29	6.1
500	31	5,772	-13.3	-28.7	29	7.3
450	30	6,564	-18.[illegible]	-33.6	29	8.7
400	30	7,432	-24.9	-38.2	29	9.0
350	30	8,392	-32.1	-44.1	28	10.0
300	30	9,458	-40.6	-48.6	28	11.5
250	30	10,675	-50.0		28	13.3
200	30	12,100	-60.[illegible]		28	13.6
175	30	12,928	-62.7		28	13.4
150	30	13,877	-62.9		28	12.8
125	30	15,002	-62.2		29	12.9
100	30	16,380	-62.5		29	9.6
80	30	17,756	-62.1		30	6.3
70	30	18,585	-60.[illegible]		31	4.1
60	30	19,551	-58.0		32	1.9
50	30	20,706	-55.9		04	1.[illegible]
40	30	22,132	-54.0		07	2.[illegible]
30	30	23,988	-52.0		08	3.1
25	29	25,172	-50.7		08	2.6
20	27	26,635	-48.4		07	1.5
15	25	28,542	-44.9		08	.[illegible]
10	24	31,291	-39.6		36	1.1
7	5	33,719	-35.4			

RAWINSONDE DATA

Average monthly values

* CARIBOU, ME
990 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	191	7.0	.7	32	3.3
1000						
950	31	528	7.0	-1.1	32	6.5
900	31	972	5.1	-3.0	32	8.0
850	31	1,436	2.4	-5.9	33	9.0
800	31	1,924	.3	-9.1	32	8.9
750	31	2,440	-2.1	-12.7	33	10.3
700	31	2,985	-5.1	-15.5	32	11.6
650	31	3,564	-8.2	-19.3	32	12.9
600	31	4,181	-11.[illegible]	-22.6	32	13.2
550	31	4,843	-15.7	-27.2	31	14.6
500	31	5,555	-20.5	-31.6	31	15.3
450	31	6,327	-25.7	-36.6	31	16.4
400	31	7,170	-32.0	-42.4	31	17.7
350	31	8,132	-38.8	-46.8	31	18.6
300	31	9,142	-45.4		31	18.7
250	31	10,344	-50.7		31	18.9
200	31	11,787	-53.5		31	17.3
175	31	12,646	-53.5		31	14.7
150	31	13,638	-53.3		31	12.5
125	31	14,811	-54.1		31	9.1
100	31	16,242	-54.5		32	6.5
80	31	17,672	-54.3		34	3.4
70	31	18,530	-53.6		01	2.1
60	31	19,523	-53.3		04	1.6
50	30	20,697	-52.7		08	1.5
40	29	22,146	-51.8		09	4.1
30	28	24,013	-51.1		09	5.0
25	28	25,203	-49.6		09	5.6
20	28	26,673	-47.0		08	5.8
15	28	28,587	-44.0		08	5.0
10	11	31,357	-38.3			
7						

CENTREVILLE, AL
1001 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	140	16.6	14.5	05	1.2
1000	23	161	17.8	13.8	08	1.1
950	31	587	19.6	10.7	16	1.3
900	31	1,052	16.9	8.3	19	1.7
850	31	1,536	13.3	5.6	20	1.5
800	31	2,044	9.8	1.7	22	.9
750	31	2,577	6.8	-3.4	25	.6
700	31	3,141	4.0	-9.5	29	1.3
650	31	3,740	.5	-12.2	30	1.9
600	31	4,378	-3.4	-16.0	30	2.2
550	31	5,060	-7.7	-19.9	30	3.2
500	31	5,796	-12.4	-26.4	31	4.5
450	31	6,592	-18.0	-30.4	30	5.1
400	31	7,462	-24.2	-36.4	29	6.2
350	31	8,424	-31.5	-42.4	30	6.6
300	31	9,494	-40.0	-50.6	30	8.1
250	31	10,713	-49.9		30	10.5
200	31	12,138	-59.7		29	13.0
175	31	12,966	-63.1		29	13.7
150	31	13,914	-62.8		29	13.9
125	31	15,040	-62.7		29	13.2
100	30	16,412	-64.2		29	9.8
80	30	17,771	-65.8		30	5.9
70	30	18,584	-64.7		33	3.3
60	30	19,532	-61.8		01	1.9
50	30	20,671	-58.3		05	1.7
40	30	22,084	-55.3		07	3.5
30	28	23,930	-52.9		09	3.6
25	27	25,110	-51.1		07	2.5
20	26	26,571	-48.3		06	1.8
15	26	28,479	-45.1		03	.9
10	24	31,224	-39.2		31	1.4
7	6	33,611	-35.5			

CHARLESTON, SC
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	13	17.8	16.7	35	.9
1000	31	152	19.8	16.[illegible]	32	.5
950	31	595	18.7	10.9	29	.3
900	31	1,058	16.1	7.4	35	.6
850	31	1,541	12.6	5.7	36	.9
800	31	2,047	9.4	3.3	36	1.0
750	31	2,580	6.1	-1.8	34	1.0
700	31	3,142	2.8	-6.7	31	1.7
650	31	3,739	-.1	-14.8	30	2.8
600	31	4,376	-3.7	-17.0	30	3.2
550	31	5,058	-7.8	-21.7	29	4.0
500	31	5,794	-12.1	-27.2	30	5.4
450	31	6,591	-17.7	-32.0	30	5.6
400	31	7,462	-24.0	-37.8	29	6.2
350	31	8,425	-31.3	-44.5	29	7.0
300	31	9,495	-39.8	-51.7	28	8.3
250	31	10,715	-49.5		29	9.7
200	30	12,143	-59.5		29	12.3
175	30	12,971	-62.8		29	12.7
150	30	13,919	-62.9		28	13.5
125	30	15,046	-61.9		29	13.7
100	30	16,421	-63.5		29	11.0
80	30	17,787	-64.2		30	6.9
70	30	18,607	-62.6		31	4.3
60	30	19,564	-59.9		32	2.6
50	30	20,712	-56.6		03	1.7
40	29	22,139	-54.6		08	4.0
30	27	23,992	-52.2		08	4.4
25	25	25,178	-50.6		09	3.5
20	25	26,643	-47.5		06	1.9
15	23	28,561	-44.1		35	.9
10	18	31,328	-38.8		04	1.1
7	5	33,793	-33.7			

CHATHAM, MA
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	16	11.6	7.2	31	1.8
1000	28	139	12.7	4.4	30	3.4
950	31	555	11.9	1.0	32	4.7
900	31	1,006	9.6	-.4	32	5.1
850	31	1,478	7.2	-2.7	31	6.7
800	31	1,975	4.4	-4.[illegible]	30	8.1
750	31	2,497	1.4	-10.5	29	8.9
700	31	3,050	-1.3	-14.0	30	10.5
650	31	3,638	-4.2	-17.1	30	11.9
600	31	4,265	-7.8	-20.9	30	13.4
550	31	4,936	-11.8	-24.4	30	15.9
500	31	5,660	-16.5	-29.4	29	17.5
450	31	6,443	-22.2	-34.4	29	17.5
400	31	7,298	-28.5	-40.6	29	18.9
350	31	8,245	-35.6	-45.1	30	20.1
300	31	9,295	-44.1		30	21.5
250	31	10,497	-51.8		30	21.0
200	31	11,923	-58.1		30	19.3
175	31	12,760	-59.6		29	18.3
150	31	13,725	-59.1		29	16.3
125	31	14,872	-58.5		30	12.4
100	31	16,275	-58.5		30	8.0
80	29	17,680	-57.9		31	5.1
70	28	18,523	-57.0		31	3.8
60	28	19,502	-55.5		33	2.4
50	28	20,668	-54.1		03	.8
40	28	22,103	-53.3		10	1.2
30	28	23,961	-52.3		06	1.8
25	28	25,143	-51.3		06	2.5
20	28	26,600	-49.2		07	2.7
15	25	28,493	-45.4		06	3.4
10	11	31,233	-39.8			
7						

CHIHUAHUA, MEXICO
856 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,428	15.6	-.3	23	2.2
1000						
950						
900						
850	31	1,482	17.5	-1.1	23	2.5
800	31	1,999	15.7	-3.1	25	4.6
750	31	2,543	12.2	-5.6	25	6.0
700	31	3,116	8.3	-8.8	24	7.8
650	31	3,724	4.4	-12.0	23	7.6
600	31	4,370	-.6	-15.9	22	9.0
550	31	5,059	-6.0	-19.8	22	10.8
500	31	5,797	-11.7	-25.9	23	12.2
450	31	6,596	-17.1	-30.5	24	13.0
400	31	7,468	-23.7	-36.0	25	15.1
350	31	8,432	-31.0	-41.9	25	16.9
300	31	9,504	-39.3	-48.2	25	21.0
250	31	10,729	-48.2		25	26.0
200	31	12,166	-58.1		26	32.0
175	31	12,999	-62.4		26	31.4
150	31	13,946	-63.6		26	26.8
125	31	15,066	-63.8		25	21.1
100	31	16,425	-66.7		25	14.2
80	31	17,771	-67.7		24	5.6
70	31	18,574	-67.2		19	2.0
60	31	19,517	-62.5		12	2.2
50	31	20,650	-59.3		10	3.4
40	31	22,059	-56.2		09	3.5
30	29	23,904	-52.6		09	4.9
25	29	25,087	-50.5		09	4.6
20	25	26,546	-48.2		08	2.5
15	24	28,454	-44.9		03	1.2
10	8	31,294	-39.2			
7						

* COLD BAY, AK
1006 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	30	2.1	-.3	29	1.4
1000	21	121	2.0	-.6	27	1.8
950	30	491	-.4	-2.6	29	3.5
900	30	921	-3.2	-5.0	28	3.8
850	30	1,372	-5.6	-8.[illegible]	27	3.6
800	30	1,845	-8.2	-12.7	27	3.9
750	30	2,344	-10.[illegible]	-18.1	26	5.0
700	30	2,872	-13.6	-23.4	26	5.4
650	30	3,433	-16.3	-28.0	25	6.1
600	30	4,031	-19.9	-31.8	25	6.8
550	30	4,671	-24.0	-35.0	26	7.9
500	30	5,360	-28.6	-40.7	26	9.7
450	29	6,106	-33.3	-44.4	26	9.9
400	29	6,924	-39.[illegible]	-49.9	26	11.1
350	29	7,832	-44.2		27	12.7
300	29	8,855	-47.8		27	14.0
250	29	10,051	-47.0		26	14.2
200	28	11,533	-46.3		26	11.6
175	28	12,420	-46.7		26	10.6
150	28	13,442	-47.0		26	7.8
125	28	14,646	-48.2		25	7.0
100	28	16,112	-49.7		24	4.4
80	28	17,570	-50.5		23	3.0
70	28	18,441	-50.6		22	1.9
60	27	19,445	-50.9		18	1.2
50	27	20,632	-50.9		13	1.9
40	26	22,081	-51.2		11	2.9
30	23	23,952	-51.1		10	4.4
25	22	25,145	-50.0		10	5.4
20	22	26,608	-48.6		09	6.2
15	17	28,526	-45.3		09	7.0
10	10	31,259	-39.6			
7						

DAYTON, OH
983 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	299	15.6	10.[illegible]	17	.4
1000						
950	30	587	18.1	8.9	25	1.8
900	30	1,049	15.9	6.5	28	2.6
850	30	1,532	12.6	3.5	29	3.1
800	30	2,038	9.2	.1	29	3.4
750	30	2,570	5.8	-4.2	29	3.1
700	30	3,131	2.2	-8.5	29	3.5
650	30	3,726	-1.1	-12.6	29	4.1
600	30	4,361	-4.8	-17.9	29	4.7
550	30	5,040	-8.9	-22.1	29	4.7
500	30	5,771	-13.8	-26.6	29	5.1
450	30	6,564	-19.2	-32.5	29	5.7
400	27	7,431	-25.5	-37.7	30	5.0
350	26	8,392	-32.7	-43.3	28	4.7
300	26	9,457	-41.1	-49.3	29	5.4
250	26	10,670	-50.7		30	6.7
200	25	12,094	-60.6		31	7.7
175	25	12,916	-63.8		31	7.4
150	25	13,864	-62.7		31	7.7
125	24	15,000	-60.6		31	7.0
100	24	16,987	-61.5		33	6.5
80	24	17,769	-61.2		34	4.3
70	24	18,601	-59.8		35	3.3
60	24	19,569	-58.2		01	2.9
50	23	20,726	-56.5		05	2.4
40	23	22,149	-54.5		07	2.4
30	21	24,012	-52.3		08	2.9
25	20	25,205	-50.1		08	3.5
20	19	26,671	-47.3		09	3.9
15	19	28,592	-43.3		10	3.2
10	15	31,345	-37.9		08	4.9
7						

DEL RIO, TX
975 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	314	21.1	19.3	12	4.5
1000						
950	31	536	20.1	18.4	14	8.0
900	31	1,003	18.3	15.7	16	10.5
850	31	1,493	16.5	11.4	17	8.6
800	31	2,008	15.3	[illegible].6	19	7.8
750	31	2,554	13.3	-5.[illegible]	20	6.6
700	31	3,131	9.7	-8.[illegible]	23	5.4
650	31	3,741	4.9	-12.4	26	5.4
600	31	4,387	-.6	-15.8	26	6.7
550	31	5,074	-6.4	-19.[illegible]	26	7.6
500	31	5,812	-11.8	-24.1	26	9.1
450	31	6,611	-16.7	-31.[illegible]	26	9.6
400	31	7,485	-23.1	-36.7	26	12.6
350	31	8,451	-30.5	-44.0	26	15.5
300	31	9,526	-38.6	-50.9	26	19.6
250	31	10,752	-48.3		26	23.2
200	31	12,188	-58.4		27	28.4
175	31	13,019	-62.9		27	29.9
150	31	13,963	-64.9		27	24.1
125	31	15,077	-64.0		26	20.3
100	31	16,437	-66.7		26	12.2
80	31	17,778	-68.9		24	5.0
70	31	18,579	-67.6		22	2.6
60	31	19,517	-63.0		10	2.2
50	31	20,650	-59.6		09	3.4
40	31	22,057	-56.3		09	4.0
30	31	23,901	-52.7		08	5.3
25	31	25,082	-51.2		08	4.5
20	31	26,541	-48.6		08	3.4
15	31	28,447	-45.4		08	1.0
10	29	31,187	-40.4		12	.6
7	20	33,648	-35.8		23	1.7

DENVER, CO
834 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,611	9.7	2.[illegible]	21	1.8
1000						
950						
900						
850						
800	31	1,955	10.5	.[illegible]	23	2.9
750	31	2,491	8.5	-4.9	24	3.9
700	31	3,058	4.7	-9.3	24	5.2
650	31	3,657	.1	-12.6	24	6.6
600	31	4,293	-5.0	-16.7	24	8.3
550	31	4,970	-10.2	-21.7	23	9.6
500	31	5,697	-15.2	-28.[illegible]	23	10.4
450	31	6,485	-20.7	-33.3	23	12.7
400	31	7,344	-27.4	-38.6	22	14.1
350	31	8,293	-35.1	-45.1	22	16.0
300	31	9,346	-43.7		22	18.5
250	31	10,548	-52.0		22	20.4
200	31	11,970	-58.8		22	19.2
175	31	12,805	-59.6		23	18.4
150	31	13,775	-57.0		23	12.5
125	31	14,929	-57.4		23	10.0
100	31	16,336	-58.5		22	6.3
80	31	17,732	-60.6		21	2.9
70	31	18,564	-60.1		16	1.4
60	31	19,528	-59.1		11	1.0
50	31	20,674	-58.0		09	2.0
40	31	22,085	-56.5		07	2.6
30	29	23,922	-53.8		08	4.1
25	27	25,092	-52.1		08	3.5
20	27	26,545	-49.6		08	2.8
15	25	28,443	-45.7		08	2.4
10	23	31,181	-40.0		12	1.8
7	9	33,644	-35.6			

DODGE CITY, KS
921 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	791	16.1	12.5	17	3.6
1000						
950						
900	30	987	16.0	12.2	18	7.4
850	30	1,474	15.5	6.7	20	10.5
800	30	1,987	13.3	1.1	21	9.7
750	30	2,527	9.6	-2.8	22	8.9
700	30	3,095	5.4	-8.0	22	8.5
650	30	3,696	.9	-11.8	23	7.0
600	30	4,333	-4.0	-16.0	23	6.7
550	30	5,014	-8.7	-21.8	23	8.5
500	30	5,745	-13.8	-27.5	24	8.0
450	30	6,537	-19.4	-34.3	24	9.5
400	30	7,402	-25.9	-39.1	24	9.9
350	30	8,358	-33.1	-44.4	24	10.7
300	30	9,420	-41.4	-47.4	23	14.1
250	30	10,633	-50.7		23	14.4
200	30	12,056	-59.6		24	16.4
175	30	12,884	-62.6		24	16.7
150	30	13,839	-60.2		24	12.8
125	30	14,977	-60.4		24	10.0
100	30	16,368	-60.7		24	7.5
80	30	17,747	-63.4		25	3.4
70	30	18,569	-62.5		26	.6
60	30	19,524	-60.5		08	1.3
50	30	20,664	-59.0		07	1.8
40	30	22,072	-56.5		07	3.0
30	28	23,915	-53.8		08	2.9
25	28	25,0[illegible]2	-51.9		[illegible]	2.6
20	27	26,552	-49.4		08	2.5
15	27	28,452	-45.9		09	2.5
10	26	31,185	-39.8		11	1.1
7	9	33,653	-34.8			

EL PASO, TX
879 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,193	16.[illegible]	-3.1	26	2.0
1000						
950						
900						
850	31	1,477	18.1	-2.4	27	4.1
800	31	1,992	14.4	-5.1	27	6.3
750	31	2,533	10.3	-8.4	25	7.3
700	31	3,102	[illegible].0	-11.8	23	8.3
650	31	3,704	1.8	-14.1	22	9.8
600	31	4,344	-2.[illegible]	-17.0	22	11.[illegible]
550	31	5,027	-7.8	-21.4	23	13.2
500	31	5,761	-13.3	-27.0	23	13.5
450	31	6,555	-18.8	-32.0	24	14.7
400	31	7,421	-25.3	-38.4	24	15.4
350	31	8,379	-32.9	-44.6	24	17.2
300	31	9,441	-41.7	-48.1	24	19.3
250	31	10,652	-51.0		25	23.1
200	31	12,074	-59.6		25	27.8
175	31	12,904	-62.0		25	29.6
150	31	13,860	-61.2		25	23.6
125	31	14,990	-61.9		25	19.7
100	30	16,368	-63.4		25	14.0
80	30	17,733	-64.8		24	5.4
70	29	18,548	-64.1		20	2.1
60	29	19,503	-60.7		10	2.3
50	28	20,644	-59.1		03	3.5
40	27	22,057	-56.1		03	3.3
30	24	23,901	-52.4		07	2.7
25	23	25,090	-50.3		07	2.9
20	21	26,561	-48.0		10	1.7
15	21	28,475	-44.2		27	.3
10	19	31,227	-39.2		14	.8
7	7	33,720	-33.8			

ELY, NV
805 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,908	2.0	-2.0	20	2.7
1000						
950						
900						
850						
800	26	1,965	3.7	-1.9	20	2.6
750	31	2,478	2.8	-5.7	19	3.0
700	31	3,032	-1.5	-8.[illegible]	21	4.2
650	31	3,618	-5.8	-11.2	21	5.9
600	31	4,240	-10.2	-16.0	22	8.1
550	31	4,906	-14.4	-22.3	22	9.8
500	31	5,622	-19.0	-27.6	22	10.7
450	30	6,401	-24.4	-33.2	22	12.5
400	30	7,248	-30.6	-39.5	22	14.2
350	29	8,189	-37.9	-46.0	23	15.2
300	29	9,230	-45.7		23	17.2
250	28	10,425	-52.2		24	18.9
200	28	11,859	-54.3		24	17.5
175	28	12,714	-54.7		24	16.0
150	28	13,703	-54.1		24	12.1
125	28	14,871	-55.2		24	8.5
100	27	16,292	-56.4		22	6.7
80	26	17,709	-57.6		21	3.3
70	26	18,550	-58.5		17	1.8
60	25	19,520	-58.2		14	1.6
50	25	20,669	-57.6		09	2.1
40	25	22,081	-56.5		09	[illegible].8
30	24	23,911	-54.5		08	2.4
25	23	25,085	-52.0		07	2.6
20	21	26,542	-49.4		07	3.7
15	21	28,442	-46.0		08	3.3
10	17	31,197	-39.5		10	3.3
7	6	33,683	-33.8			

EMPALME, MEXICO
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	12	17.6	7.7	35	1.0
1000	30	91	21.0	9.5	33	1.3
950	30	535	20.6	4.0	33	2.2
900	30	1,000	18.6	.1	27	1.3
850	30	1,488	15.8	-2.1	21	3.9
800	30	2,000	13.4	-6.5	21	6.2
750	30	2,540	10.9	-8.5	22	8.1
700	30	3,112	7.6	-12.3	22	9.1
650	30	3,718	4.1	-15.3	23	10.2
600	30	4,364	-.3	-18.3	23	11.5
550	30	5,053	-5.2	-21.7	24	13.3
500	30	5,794	-10.6	-26.0	24	14.5
450	30	6,596	-16.1	-31.0	24	16.2
400	30	7,471	-23.2	-36.4	25	18.0
350	30	8,438	-30.3	-44.1	25	21.3
300	30	9,512	-38.7	-50.7	25	24.9
250	30	10,741	-47.6		26	32.1
200	30	12,182	-57.4		26	36.5
175	30	13,018	-61.3		26	34.8
150	30	13,970	-62.8		26	30.0
125	29	15,094	-63.3		25	23.7
100	28	16,460	-65.3		25	16.1
80	26	17,824	-65.3		23	7.5
70	26	18,637	-65.1		20	3.3
60	26	19,585	-60.8		11	2.9
50	24	20,730	-58.2		09	4.8
40	23	22,145	-56.0		09	6.1
30	21	23,992	-51.8		08	5.6
25	18	25,186	-49.7		07	5.5
20	15	26,661	-47.1		07	4.9
15	14	28,586	-43.5		11	2.0
10	9	31,361	-39.2			
7						

* FAIRBANKS, AK
992 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	135	5.8	-.8	32	1.3
1000						
950	31	486	6.1	-2.5	33	1.1
900	31	927	3.4	-4.6	26	1.2
850	31	1,388	.0	-6.4	23	1.4
800	31	1,870	-3.6	-8.4	19	1.3
750	31	2,377	-7.6	-10.[illegible]	18	2.2
700	31	2,910	-11.3	-14.5	18	3.3
650	31	3,475	-14.9	-18.6	18	4.2
600	31	4,076	-18.8	-24.4	17	5.2
550	31	4,719	-23.1	-29.9	17	5.9
500	31	5,411	-27.8	-33.7	17	6.3
450	30	6,156	-33.6	-38.9	17	6.7
400	29	6,974	-39.6	-42.[illegible]	17	7.1
350	29	7,878	-45.9		17	6.9
300	29	8,887	-51.3		18	7.5
250	29	10,072	-49.7		18	7.7
200	29	11,546	-46.3		18	6.8
175	29	12,434	-46.0		18	6.1
150	29	13,459	-46.4		18	5.5
125	29	14,668	-47.5		17	5.4
100	29	16,140	-48.2		17	5.2
80	29	17,607	-48.9		16	4.6
70	29	18,484	-49.2		15	3.9
60	29	19,495	-49.3		14	4.3
50	29	20,690	-49.6		13	4.6
40	29	22,153	-49.3		11	4.1
30	25	24,049	-48.8		10	5.7
25	24	25,251	-48.2		10	6.7
20	24	26,726	-47.1		10	7.3
15	22	28,624	-44.7		09	8.3
10	20	31,380	-39.5		09	8.9
7	[illegible]	33,750	-36.0			

FLINT, MI
990 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	236	10.7	5.7	14	.6
1000						
950	31	582	14.9	[illegible].5	29	1.7
900	31	1,039	13.3	2.0	28	3.0
850	31	1,518	11.0	-.3	29	4.4
800	31	2,021	8.1	-4.[illegible]	30	5.1
750	31	2,551	4.7	-7.[illegible]	29	5.9
700	31	3,110	1.0	-11.[illegible]	30	6.[illegible]
650	31	3,702	-2.2	-16.3	29	7.4
600	31	4,334	-6.0	-21.0	30	[illegible].0
550	31	5,010	-10.0	-25.[illegible]	30	8.4
500	31	5,738	-14.8	-29.5	30	[illegible].3
450	31	6,528	-20.1	-35.1	30	8.8
400	31	7,390	-26.4	-40.1	30	10.2
350	31	8,343	-33.8	-45.3	30	10.3
300	31	9,402	-42.4	-49.2	30	12.0
250	30	10,621	-51.7		30	13.5
200	30	12,038	-60.8		30	13.4
175	30	12,863	-63.1		30	12.7
150	30	13,815	-61.5		30	11.[illegible]
125	30	14,950	-60.0		31	9.[illegible]
100	30	16,343	-60.2		32	7.9
80	30	17,735	-59.9		33	5.1
70	30	18,571	-59.0		35	3.7
60	30	19,542	-57.5		36	2.8
50	30	20,697	-56.2		02	2.[illegible]
40	29	22,122	-54.9		05	2.8
30	27	23,968	-52.7		08	4.[illegible]
25	26	25,149	-51.3		08	3.7
20	26	26,608	-48.9		08	4.3
15	22	28,520	-45.1		08	4.3
10	11	31,227	-40.2			
7						

RAWINSONDE DATA

Average monthly values

GLASGOW, MT
928 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	696	9.2	3.3	09	.5
1000						
950						
900	31	956	12.3	2.0	27	1.0
850	31	1,434	10.9	-.6	24	2.4
800	31	1,938	8.1	-3.3	23	3.3
750	31	2,467	4.6	-5.7	23	3.9
700	31	3,025	.3	-8.4	22	5.5
650	31	3,615	-3.8	-12.1	22	7.2
600	31	4,242	-8.2	-16.8	22	8.2
550	31	4,912	-12.5	-21.0	22	8.6
500	31	5,633	-17.7	-27.5	22	9.7
450	31	6,414	-23.1	-33.7	21	10.7
400	31	7,265	-29.6	-38.9	21	12.5
350	31	8,207	-36.6	-43.9	20	13.8
300	31	9,253	-44.9		20	15.1
250	31	10,451	-52.5		20	16.9
200	31	11,881	-55.3		21	16.1
175	31	12,734	-54.6		21	12.5
150	31	13,725	-53.0		20	8.3
125	31	14,898	-54.1		21	6.0
100	31	16,326	-55.2		21	2.5
80	31	17,747	-56.4		19	1.4
70	31	18,594	-56.8		16	1.3
60	31	19,571	-56.7		11	1.8
50	31	20,729	-55.9		09	2.7
40	31	22,153	-54.9		09	4.2
30	31	23,997	-53.3		08	5.4
25	29	25,173	-51.8		09	5.6
20	29	26,626	-49.9		09	5.7
15	26	28,510	-46.7		09	6.7
10	18	31,190	-41.7		10	6.6
7						

GRAND JUNCTION, CO
848 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,472	11.8	-3.6	11	1.9
1000						
950						
900						
850	8	1,493	11.3	-4.9		
800	31	1,960	11.1	-4.7	17	3.7
750	31	2,495	7.3	-6.9	21	4.8
700	31	3,058	2.8	-9.2	22	6.5
650	31	3,653	-2.1	-11.5	22	8.7
600	31	4,283	-7.3	-14.7	22	10.0
550	31	4,955	-12.2	-20.6	21	11.9
500	31	5,676	-17.2	-27.9	22	13.4
450	31	6,659	-22.4	-33.0	22	15.3
400	31	7,313	-28.6	-38.5	23	17.1
350	31	8,258	-35.9	-43.9	23	18.7
300	31	9,308	-44.0		23	20.4
250	31	10,511	-51.5		23	20.0
200	31	11,941	-56.5		23	19.6
175	30	12,787	-57.1		23	16.1
150	30	13,764	-56.3		23	14.7
125	28	14,923	-56.0		23	10.5
100	27	16,335	-57.3		22	6.6
80	25	17,741	-59.4		21	3.1
70	25	18,576	-59.7		20	1.7
60	23	19,545	-58.7		14	.9
50	21	20,691	-57.9		08	1.1
40	21	22,102	-56.5		07	2.3
30	20	23,941	-53.5		06	2.5
25	18	25,123	-51.7		06	2.8
20	17	26,581	-48.8		06	3.0
15	14	28,488	-45.2		08	2.5
10	7	31,213	-40.0			
7						

* GREAT FALLS, MT
883 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,118	5.6	-.9	22	2.8
1000						
950						
900						
850	31	1,435	7.4	-1.7	24	4.2
800	31	1,931	4.0	-3.7	26	4.3
750	31	2,453	.7	-5.5	25	4.6
700	31	3,004	-2.7	-9.0	24	5.7
650	31	3,588	-6.2	-12.7	22	6.9
600	31	4,210	-10.3	-17.4	22	8.4
550	31	4,875	-14.8	-22.2	21	9.8
500	31	5,589	-20.1	-27.0	21	9.8
450	30	6,361	-25.5	-33.3	21	11.8
400	30	7,205	-31.6	-39.7	20	12.9
350	30	8,139	-38.7	-43.0	19	15.0
300	30	9,178	-46.1		19	16.5
250	30	10,373	-52.2		20	15.9
200	30	11,812	-53.4		20	14.0
175	30	12,674	-52.1		20	11.5
150	30	13,674	-51.6		20	9.3
125	29	14,856	-52.8		19	7.0
100	29	16,292	-54.1		20	3.9
80	29	17,716	-56.2		18	2.1
70	29	18,565	-56.0		15	1.9
60	29	19,546	-56.2		13	1.8
50	29	20,704	-56.5		10	2.7
40	29	22,125	-55.0		10	4.1
30	29	23,968	-53.6		09	5.3
25	29	25,144	-52.2		08	6.3
20	27	26,594	-50.2		08	6.2
15	27	28,490	-46.5		08	6.4
10	25	31,218	-40.2		09	6.2
7	11	33,695	-35.5			

GREEN BAY, WI
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	210	11.3	7.8	17	.3
1000						
950	31	567	15.1	4.6	23	2.8
900	31	1,025	13.7	3.2	25	3.7
850	31	1,504	10.9	1.0	26	4.4
800	31	2,008	7.8	-2.4	26	4.5
750	31	2,537	4.6	-5.6	26	4.8
700	31	3,096	1.2	-10.2	26	5.2
650	31	3,688	-2.0	-15.5	27	5.5
600	31	4,320	-5.7	-20.4	27	6.1
550	31	4,997	-9.9	-25.6	27	6.9
500	31	5,726	-14.8	-29.7	28	7.4
450	31	6,515	-20.1	-35.2	28	8.2
400	31	7,377	-26.6	-40.1	29	9.2
350	31	8,330	-33.9	-46.5	29	10.3
300	31	9,389	-42.3	-51.8	30	10.3
250	31	10,596	-51.9		30	12.0
200	31	12,012	-60.2		30	11.4
175	31	12,840	-62.8		29	10.7
150	31	13,795	-60.1		30	9.1
125	31	14,935	-59.4		30	8.1
100	31	16,332	-59.6		31	6.9
80	31	17,726	-59.9		33	4.8
70	31	18,563	-58.5		34	3.6
60	31	19,534	-57.7		36	3.0
50	31	20,688	-56.4		04	2.7
40	31	22,110	-54.8		06	3.6
30	29	23,958	-52.9		07	4.8
25	28	25,134	-51.4		09	4.5
20	27	26,587	-49.2		09	4.4
15	25	28,496	-44.9		09	4.7
10	22	31,245	-38.7		08	5.7
7	9	33,710	-33.7			

GREENSBORO, NC
987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	275	15.5	11.6	34	.3
1000						
950	31	597	17.0	10.7	32	1.8
900	31	1,056	14.8	7.2	33	2.3
850	31	1,539	11.7	3.6	34	2.5
800	31	2,044	8.9	-.8	33	2.6
750	31	2,576	5.5	-2.6	31	3.7
700	31	3,136	2.1	-7.8	30	3.7
650	31	3,731	-1.5	-12.5	30	4.1
600	31	4,365	-4.8	-18.5	30	4.5
550	31	5,044	-8.9	-23.7	30	4.7
500	31	5,776	-13.5	-28.3	30	5.5
450	31	6,569	-18.9	-32.1	30	5.7
400	31	7,435	-25.3	-37.7	31	6.7
350	31	8,393	-32.6	-43.7	30	7.9
300	31	9,457	-41.2	-48.6	30	8.0
250	31	10,671	-50.5		30	10.0
200	31	12,094	-60.1		30	10.8
175	31	12,921	-63.4		30	11.1
150	31	13,869	-62.4		30	10.9
125	31	14,997	-61.8		30	11.4
100	31	16,376	-62.6		31	9.9
80	31	17,751	-62.5		31	6.3
70	31	18,579	-60.7		32	4.6
60	31	19,543	-58.7		32	2.5
50	31	20,693	-56.6		01	1.5
40	30	22,115	-54.3		08	.9
30	30	23,967	-52.7		08	2.7
25	29	25,154	-50.9		09	2.5
20	28	26,615	-48.4		09	2.2
15	27	28,519	-44.9		07	.8
10	17	31,245	-40.2		30	3.6
7						

GUADALUPE IS., MEXICO
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	23	15.1	11.4	32	8.1
1000	31	135	13.8	9.7	32	8.3
950	31	565	11.0	6.5	31	6.5
900	31	1,016	9.9	.1	31	5.1
850	31	1,490	9.6	-5.8	30	4.4
800	31	1,992	8.3	-9.9	29	5.2
750	31	2,523	6.9	-13.1	27	6.2
700	31	3,087	4.2	-15.4	26	7.6
650	31	3,687	1.3	-18.4	25	9.5
600	31	4,327	-2.1	-21.2	25	11.3
550	31	5,013	-5.9	-23.7	25	13.0
500	31	5,752	-10.9	-27.9	26	14.7
450	31	6,552	-17.0	-32.6	26	15.7
400	31	7,425	-23.9	-39.0	26	17.5
350	31	8,388	-31.4	-45.2	25	18.8
300	31	9,457	-40.2	-51.1	26	19.5
250	31	10,676	-49.4		25	23.2
200	31	12,108	-58.5		25	21.4
175	30	12,942	-61.1		25	21.5
150	28	13,895	-61.8		25	20.2
125	27	15,022	-62.8		25	17.0
100	26	16,288	-64.0		24	11.3
80	24	17,756	-63.5		24	5.5
70	24	18,579	-62.0		21	2.0
60	24	19,533	-61.2		12	1.1
50	22	20,673	-59.0		10	1.8
40	21	22,081	-56.1		09	2.9
30	18	23,919	-52.8		05	3.1
25	18	25,102	-50.4		03	2.1
20	13	26,534	-48.1		31	.6
15	9	28,435	-44.9			
10						
7						

* GUAM, MARIANA IS.
1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	111	24.7	22.7	09	2.9
1000	10	119	25.3	23.1	09	3.9
950	31	557	22.8	19.8	10	6.5
900	31	1,028	20.1	16.1	10	5.9
850	31	1,520	17.3	12.0	10	5.6
800	31	2,036	15.2	7.5	10	5.1
750	31	2,582	12.8	2.6	09	4.6
700	31	3,159	10.1	-3.9	09	3.9
650	31	3,772	6.6	-8.1	07	3.0
600	31	4,424	2.4	-10.9	08	2.6
550	31	5,122	-1.6	-16.0	07	2.5
500	31	5,875	-5.3	-21.3	06	3.3
450	31	6,695	-10.2	-27.4	07	3.1
400	31	7,592	-16.1	-32.6	07	2.3
350	30	8,588	-23.0	-38.6	03	1.5
300	30	9,696	-31.6	-45.4	28	3.2
250	30	10,959	-41.5		27	5.8
200	30	12,433	-53.8		27	5.6
175	30	13,278	-60.7		28	6.0
150	30	14,220	-68.0		30	4.5
125	29	15,296	-75.2		33	2.8
100	28	16,571	-80.5		04	3.3
80	26	17,830	-80.2		07	5.3
70	22	18,590	-75.8		08	7.8
60	21	19,497	-69.1		09	9.4
50	21	20,604	-64.2		09	13.1
40	21	21,984	-59.3		09	17.9
30	20	23,808	-54.2		09	23.2
25	20	24,987	-50.7		09	24.2
20	20	26,453	-46.6		09	22.9
15	20	28,381	-42.7		08	19.5
10	13	31,125	-39.6		08	18.4
7						

HILO, HI
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	10	20.4	18.2	23	1.9
1000	31	156	20.9	17.4	21	1.4
950	31	599	17.8	15.2	12	2.8
900	31	1,060	14.8	12.1	11	3.9
850	31	1,542	11.7	9.4	11	3.5
800	31	2,048	10.0	1.1	10	4.1
750	31	2,584	8.8	-7.1	10	5.3
700	31	3,153	7.1	-12.1	10	4.6
650	31	3,759	4.5	-15.0	10	3.4
600	31	4,407	.8	-19.0	11	2.2
550	31	5,100	-3.4	-23.2	12	1.1
500	31	5,846	-8.7	-27.4	28	.5
450	31	6,654	-14.1	-31.7	26	2.7
400	30	7,538	-20.3	-36.7	27	5.6
350	30	8,516	-27.5	-42.2	27	9.6
300	30	9,604	-35.7	-48.8	27	15.4
250	30	10,847	-45.4		27	21.7
200	30	12,299	-56.4		27	29.7
175	30	13,135	-62.4		27	31.1
150	30	14,073	-68.3		27	32.3
125	29	15,155	-71.8		27	26.7
100	29	16,467	-73.0		26	14.3
80	29	17,783	-70.5		26	6.2
70	29	18,579	-68.5		22	1.2
60	26	19,512	-65.6		09	5.7
50	26	20,631	-62.0		09	9.9
40	26	22,026	-57.7		09	12.8
30	26	23,860	-53.7		09	15.3
25	26	25,039	-51.1		09	16.0
20	24	26,506	-47.4		09	15.7
15	21	28,434	-44.0		10	14.4
10	17	31,172	-40.2		09	12.6
7						

HUNTINGTON, WV
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	246	13.8	11.0	18	.8
1000						
950	31	589	17.8	8.8	24	2.7
900	31	1,050	15.3	5.7	27	3.6
850	31	1,532	11.9	3.6	29	3.6
800	31	2,037	8.5	-.4	30	3.4
750	31	2,567	5.2	-4.7	30	3.8
700	31	3,128	2.0	-10.2	31	4.1
650	31	3,722	-1.0	-14.0	30	4.1
600	31	4,357	-4.9	-17.8	30	5.1
550	31	5,036	-8.7	-23.3	30	5.5
500	31	5,768	-13.6	-28.6	31	6.3
450	31	6,561	-18.8	-32.6	30	7.2
400	31	7,427	-25.4	-37.9	30	7.8
350	31	8,385	-32.7	-43.7	30	7.6
300	31	9,449	-41.3	-50.5	30	8.7
250	31	10,662	-50.7		30	10.4
200	31	12,084	-60.0		30	12.0
175	30	12,908	-63.0		31	11.2
150	30	13,857	-62.2		30	11.4
125	30	14,989	-60.9		30	10.1
100	30	16,375	-61.2		31	8.7
80	30	17,759	-61.2		32	6.4
70	30	18,590	-60.1		33	4.5
60	30	19,556	-58.6		35	3.5
50	30	20,708	-56.6		01	2.0
40	28	22,130	-54.4		06	1.4
30	25	23,983	-52.2		09	1.8
25	25	25,167	-50.7		08	2.6
20	24	26,635	-47.9		09	2.6
15	24	28,545	-44.6		08	2.9
10	17	31,309	-38.2		07	2.1
7						

* INTERNATIONAL FALLS, MN
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	359	10.5	6.5	15	1.4
1000						
950	31	542	13.7	6.8	19	3.0
900	31	999	13.7	3.9	22	4.4
850	31	1,479	11.0	.7	23	4.1
800	31	1,982	7.9	-.6	23	4.4
750	31	2,512	4.7	-3.5	24	5.3
700	31	3,071	1.2	-8.1	24	6.1
650	31	3,664	-2.3	-11.3	24	6.4
600	31	4,295	-6.2	-17.5	24	6.6
550	31	4,971	-10.1	-24.2	24	7.2
500	31	5,699	-14.8	-27.6	25	7.6
450	31	6,489	-20.2	-32.7	26	8.0
400	31	7,390	-26.7	-37.9	26	9.1
350	31	8,303	-33.9	-43.6	26	9.0
300	31	9,361	-42.5	-52.4	26	9.9
250	31	10,568	-51.6		26	12.3
200	31	11,987	-59.7		27	11.9
175	31	12,821	-59.8		27	9.4
150	31	13,788	-57.5		27	8.0
125	31	14,943	-57.1		28	5.6
100	31	16,355	-57.5		30	4.7
80	31	17,762	-57.8		33	3.4
70	31	18,606	-57.1		36	2.9
60	31	19,584	-56.2		04	3.2
50	31	20,747	-54.9		05	3.7
40	31	22,177	-53.9		07	4.8
30	31	24,032	-52.4		08	6.1
25	31	25,215	-50.7		08	6.4
20	29	26,687	-47.9		08	6.7
15	29	28,596	-44.8		08	6.7
10	23	31,324	-38.8		08	5.9
7	5	33,811	-34.2			

* ISLE DEL CISNE
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	10	26.0	23.0	11	3.0
1000	31	98	25.9	23.0	11	3.3
950	31	549	22.5	20.2	12	4.3
900	31	1,019	19.8	16.0	13	3.7
850	31	1,511	17.1	12.1	14	2.5
800	31	2,026	14.3	8.2	15	1.9
750	31	2,570	11.5	3.6	17	1.4
700	31	3,144	8.3	-3.2	21	1.5
650	31	3,753	5.2	-5.8	22	2.0
600	31	4,403	1.7	-10.1	25	1.6
550	31	5,099	-2.1	-14.0	25	2.1
500	31	5,851	-6.5	-17.7	27	2.9
450	31	6,666	-11.9	-23.4	29	4.7
400	30	7,558	-18.0	-28.8	28	6.1
350	29	8,543	-25.3	-35.8	28	7.5
300	29	9,640	-33.8	-44.8	28	10.7
250	29	10,892	-43.6		28	13.8
200	29	12,355	-54.9		28	17.0
175	29	13,197	-61.0		28	18.1
150	28	14,141	-67.1		28	18.5
125	27	15,229	-71.4		28	14.3
100	27	16,538	-73.7		29	6.4
80	27	17,836	-74.6		06	2.3
70	27	18,616	-72.5		08	5.7
60	27	19,536	-66.5		09	8.2
50	27	20,656	-60.8		09	10.7
40	26	22,059	-56.8		09	14.2
30	25	23,904	-52.3		09	19.5
25	23	25,093	-49.9		09	19.7
20	23	26,566	-46.0		09	17.8
15	20	28,498	-41.8		09	17.4
10	18	31,272	-37.3		09	14.9
7						

JACKSON, MS
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	100	17.8	15.7	15	1.0
1000	26	144	18.6	15.5	17	1.9
950	31	577	19.9	11.8	20	3.3
900	31	1,042	17.4	8.0	19	2.8
850	31	1,528	14.2	5.2	18	2.8
800	31	2,037	10.9	1.8	18	2.6
750	31	2,573	8.0	-5.3	20	1.3
700	31	3,139	4.8	-9.2	27	1.3
650	31	3,740	1.2	-12.3	29	2.4
600	31	4,379	-2.6	-16.0	30	2.9
550	31	5,064	-6.7	-20.9	30	4.8
500	31	5,801	-11.8	-27.5	30	5.3
450	31	6,599	-17.3	-31.5	29	5.2
400	31	7,471	-23.8	-37.8	29	6.0
350	31	8,435	-31.2	-43.6	29	7.7
300	31	9,506	-39.5	-51.6	29	9.7
250	31	10,729	-49.0		29	13.1
200	31	12,159	-59.3		29	17.2
175	31	12,988	-62.9		29	17.7
150	31	13,935	-63.0		28	16.6
125	31	15,059	-62.8		28	14.7
100	31	16,428	-64.6		29	10.5
80	31	17,783	-66.6		29	5.7
70	31	18,592	-65.9		32	2.8
60	31	19,535	-62.5		04	2.3
50	31	20,670	-59.3		06	2.4
40	31	22,080	-55.6		07	3.0
30	31	23,927	-52.6		08	3.5
25	31	25,108	-51.2		07	2.6
20	31	26,568	-48.5		07	1.5
15	30	28,477	-44.8		07	.8
10	26	31,218	-40.3		36	1.7
7	16	33,712	-34.9		05	3.1

JOHN F. KENNEDY INT. AP NY
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	14.0	7.2	29	.6
1000	30	146	14.1	6.2	29	2.2
950	31	573	13.2	3.9	30	6.0
900	31	1,027	11.4	1.6	31	6.3
850	31	1,503	8.8	-1.8	31	6.5
800	31	2,002	6.0	-4.9	31	7.4
750	31	2,528	3.1	-8.5	31	8.3
700	31	3,085	.3	-13.2	31	10.0
650	31	3,676	-2.8	-17.1	31	11.6
600	31	4,305	-6.5	-20.1	30	12.8
550	31	4,980	-10.4	-25.1	30	14.2
500	31	5,708	-14.9	-29.6	30	15.6
450	31	6,496	-20.3	-34.2	30	16.3
400	31	7,357	-26.8	-39.4	30	16.9
350	30	8,312	-34.3	-45.4	30	17.4
300	30	9,369	-42.7	-50.6	30	18.8
250	30	10,575	-51.7		31	20.9
200	30	11,997	-59.1		30	23.2
175	30	12,830	-61.2		31	20.4
150	29	13,784	-60.7		30	18.3
125	29	14,921	-59.9		30	15.6
100	28	16,313	-59.7		30	12.1
80	28	17,711	-58.6		31	7.7
70	27	18,552	-57.5		32	6.0
60	27	19,528	-56.4		32	4.4
50	27	20,691	-54.3		33	3.3
40	27	22,125	-53.2		27	1.6
30	26	23,987	-52.1		03	2.2
25	26	25,170	-51.2		06	2.9
20	26	26,629	-48.8		08	2.1
15	22	28,540	-44.9		05	1.8
10	17	31,267	-38.9			
7						

JOHNSTON IS., PACIFIC AREA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	3	25.4	21.6	09	6.3
1000	31	129	24.0	20.7	09	6.8
950	31	577	20.3	18.3	09	7.6
900	31	1,043	17.4	14.0	09	7.4
850	31	1,530	14.4	9.9	09	5.8
800	31	2,041	12.0	5.3	09	4.8
750	31	2,580	10.1	-3.0	09	2.8
700	31	3,152	8.0	-9.4	07	1.1
650	31	3,759	4.5	-13.2	26	.7
600	31	4,406	.4	-17.1	26	2.1
550	31	5,098	-3.7	-21.4	27	3.6
500	31	5,845	-8.1	-25.4	27	6.0
450	31	6,659	-13.4	-30.7	27	7.8
400	31	7,540	-19.9	-36.9	27	10.3
350	31	8,520	-27.0	-42.4	27	13.5
300	31	9,610	-35.2	-48.6	27	18.7
250	31	10,855	-44.7		26	24.1
200	31	12,313	-55.6		26	29.6
175	31	13,152	-61.7		26	32.1
150	31	14,093	-67.6		26	31.6
125	30	15,178	-72.7		27	27.4
100	27	16,475	-75.0		27	17.0
80	24	17,771	-72.6		27	7.2
70	23	18,561	-68.7		18	.2
60	23	19,488	-66.4		10	5.8
50	23	20,601	-63.3		09	10.5
40	20	21,984	-59.0		09	14.2
30	19	23,808	-54.0		09	19.1
25	19	24,985	-51.5		09	20.7
20	17	26,440	-47.7		09	20.2
15	17	28,360	-43.3		09	17.7
10	13	31,102	-41.0		10	14.6
7						

KEY WEST, FL
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	3	24.0	20.7	08	2.6
1000	30	130	23.5	19.8	08	3.8
950	30	577	20.3	17.3	09	4.7
900	30	1,043	17.4	13.6	10	3.6
850	30	1,530	14.6	8.2	11	1.8
800	30	2,041	12.3	3.3	15	.8
750	30	2,580	9.8	-1.5	20	1.8
700	30	3,150	6.6	-5.8	22	3.0
650	30	3,755	3.3	-11.1	24	2.8
600	30	4,400	-.3	-14.1	26	3.3
550	30	5,091	-4.5	-19.9	26	4.6
500	30	5,835	-9.1	-24.8	28	6.4
450	29	6,642	-14.8	-28.5	28	7.2
400	29	7,523	-21.0	-36.1	28	9.9
350	29	8,498	-28.0	-42.4	27	11.7
300	29	9,583	-36.6	-49.4	27	15.0
250	28	10,819	-46.3		27	17.5
200	28	12,266	-57.1		27	21.8
175	28	13,102	-61.5		27	22.0
150	28	14,050	-64.4		27	20.3
125	28	15,160	-66.1		28	16.0
100	28	16,506	-69.0		28	9.3
80	28	17,832	-70.8		30	3.6
70	28	18,627	-68.7		34	1.0
60	28	19,561	-63.6		06	3.5
50	28	20,693	-59.4		08	6.1
40	28	22,102	-55.8		07	8.4
30	28	23,953	-51.3		09	9.6
25	27	25,146	-48.8		10	9.4
20	27	26,622	-46.1		09	8.1
15	26	28,552	-42.8		08	7.7
10	22	31,311	-38.4		09	7.8
7	8	33,817	-35.3			

RAWINSONDE DATA

Average monthly values

MAY 1977

KING SALMON, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	15	1.6	-.5	17	1.2
1000	29	98	2.9	-.8	19	1.3
950	31	490	1.2	-2.2	21	1.6
900	31	913	-1.8	-4.3	17	1.9
850	31	1,366	-4.5	-7.7	17	2.6
800	31	1,841	-7.2	-11.0	17	2.9
750	31	2,342	-10.1	-15.3	18	2.5
700	31	2,870	-13.[illegible]	-21.0	17	2.6
650	31	3,432	-16.2	-25.1	17	2.4
600	31	4,031	-19.6	-29.0	16	2.4
550	31	4,672	-23.8	-33.3	18	2.6
500	31	5,361	-28.6	-36.[illegible]	20	2.8
450	31	6,108	-33.9	-39.6	21	3.9
400	31	6,923	-39.[illegible]	-43.[illegible]	21	4.2
350	31	7,829	-45.0		22	5.5
300	31	8,847	-48.5		23	6.0
250	31	10,049	-47.0		22	4.9
200	31	11,533	-45.3		23	4.8
175	31	12,424	-45.4		23	4.4
150	31	13,451	-46.0		23	4.0
125	31	14,662	-47.0		22	3.4
100	30	16,136	-48.6		20	2.8
80	30	17,601	-49.3		18	2.4
70	30	18,476	-49.7		16	2.0
60	29	19,494	-49.6		13	2.5
50	26	20,689	-49.9		13	3.1
40	26	22,148	-50.1		11	4.2
30	26	24,027	-50.1		10	5.3
25	25	25,219	-49.4		10	6.3
20	22	26,703	-47.5		09	6.8
15	16	28,622	-44.0		09	9.0
10						
7						

* KOROR, CAROLINE IS.
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	30	28.5	24.7	08	1.9
1000	31	91	27.4	24.5	08	2.0
950	31	545	24.0	22.5	08	2.7
900	31	1,018	21.1	18.7	08	3.3
850	31	1,513	18.3	15.3	09	2.9
800	31	2,032	15.8	12.0	10	2.7
750	31	2,579	13.3	7.8	10	2.6
700	31	3,158	10.3	3.6	10	2.7
650	31	3,772	6.9	-.5	11	1.8
600	31	4,426	3.4	-5.1	09	1.9
550	31	5,128	-.5	-9.3	09	1.8
500	31	5,885	-4.5	-15.1	08	2.0
450	30	6,707	-9.3	-19.8	08	2.8
400	30	7,609	-14.7	-26.1	08	2.9
350	30	8,610	-21.2	-32.7	08	2.2
300	30	9,726	-29.7	-40.5	10	3.1
250	30	10,998	-40.2	-49.9	11	3.8
200	30	12,480	-52.8		11	4.4
175	30	13,328	-59.6		09	3.3
150	30	14,275	-67.1		02	2.6
125	30	15,357	-74.0		01	4.0
100	30	16,637	-80.2		06	5.0
80	30	17,893	-79.8		08	5.6
70	29	18,660	-73.5		08	6.1
60	28	19,569	-68.4		09	8.7
50	28	20,676	-63.8		09	15.4
40	28	22,057	-60.0		09	23.5
30	28	23,878	-53.8		09	29.3
25	28	25,061	-49.8		09	32.7
20	28	26,538	-44.5		09	29.6
15	23	28,493	-40.0		09	20.0
10	21	31,285	-34.9		10	7.1
7	15	33,802	-31.1			

KOTZEBUE, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	21	5	-.9	-2.2	01	.9
1000	19	93	.6	-2.8	02	.3
950	21	495	.7	-4.4	13	2.1
900	21	928	-1.6	-6.2	15	3.1
850	21	1,381	-4.3	-8.1	16	3.9
800	21	1,856	-7.3	-10.6	15	[illegible].4
750	21	2,357	-9.9	-15.1	15	6.6
700	21	2,886	-13.0	-17.8	15	5.0
650	21	3,448	-16.4	-22.7	15	5.[illegible]
600	21	4,045	-20.1	-25.7	15	5.5
550	21	4,685	-24.2	-30.6	15	[illegible].5
500	21	5,374	-29.0	-36.0	15	5.9
450	20	6,110	-34.1	-42.2	15	[illegible].0
400	18	6,917	-39.9	-44.5	16	[illegible].4
350	18	7,820	-45.8		16	7.[illegible]
300	18	8,834	-49.7		16	[illegible].7
250	17	10,021	-48.5		15	5.[illegible]
200	17	11,499	-46.4		14	[illegible]
175	17	12,387	-45.8		14	3.4
150	17	13,414	-46.1		16	4.[illegible]
125	17	14,626	-46.5		15	3.7
100	17	16,107	-46.8		15	3.5
80	17	17,583	-47.9		15	3.1
70	17	18,464	-47.9		13	3.[illegible]
60	17	19,482	-47.8		13	[illegible].9
50	17	20,686	-47.8		11	4.7
40	17	22,157	-48.3		12	4.[illegible]
30	17	24,053	-47.9		10	5.9
25	17	25,259	-46.9		10	6.8
20	17	26,742	-45.9		09	7.7
15	17	28,666	-43.6		09	8.[illegible]
10	13	31,444	-37.7		09	9.7
7	5	33,870	-34.4			

LAKE CHARLES, LA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	20.0	18.6	11	.9
1000	31	130	21.5	19.0	16	1.9
950	31	574	19.4	14.2	17	4.6
900	31	1,038	17.2	9.2	16	5.0
850	31	1,524	14.5	[illegible]	16	4.5
800	31	2,035	12.7	-1.7	16	3.[illegible]
750	31	2,575	9.9	-6.3	19	1.9
700	31	3,144	6.6	-9.0	27	1.5
650	31	3,749	2.6	-11.8	30	2.9
600	31	4,390	-1.9	-15.4	30	3.[illegible]
550	31	5,076	-6.6	-19.[illegible]	29	4.9
500	31	5,814	-11.4	-24.6	29	5.9
450	31	6,614	-16.9	-30.3	29	7.0
400	31	7,488	-23.1	-36.5	28	8.[illegible]
350	31	8,456	-30.2	-42.[illegible]	28	11.2
300	30	9,530	-38.7	-49.[illegible]	28	14.5
250	30	10,756	-48.2		28	18.1
200	29	12,191	-58.5		28	22.[illegible]
175	29	13,022	-62.2		29	22.1
150	29	13,971	-63.7		28	18.9
125	29	15,091	-63.2		28	15.4
100	29	16,453	-66.4		28	10.2
80	29	17,796	-68.3		28	3.7
70	29	18,601	-66.6		31	.6
60	29	19,542	-63.1		08	2.2
50	29	20,674	-59.6		08	[illegible].9
40	29	22,083	-55.9		08	4.4
30	29	23,929	-52.2		08	5.[illegible]
25	29	25,114	-50.5		07	4.4
20	27	26,577	-48.1		10	2.9
15	27	28,489	-44.5		36	.7
10	19	31,218	-40.1		27	[illegible]

LANDER, WY
825 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,697	6.3	-2.1	21	1.6
800	31	1,948	8.1	-4.0	24	1.3
750	31	2,478	5.1	-7.2	23	2.3
700	31	3,037	.9	-9.9	22	4.6
650	31	3,628	-3.[illegible]	-12.8	22	7.0
600	31	4,256	-8.2	-16.3	22	9.[illegible]
550	31	4,925	-12.9	-22.1	22	13.2
500	31	[illegible],665	-18.3	-27.7	22	14.3
450	31	6,423	-24.[illegible]	-32.5	22	14.5
400	31	7,271	-30.4	-38.6	21	16.[illegible]
350	31	8,209	-37.7	-43.[illegible]	22	19.0
300	31	[illegible],251	-45.6		22	21.3
250	31	10,447	-52.6		21	22.[illegible]
200	31	11,876	-55.6		21	20.[illegible]
175	[illegible]	12,724	-55.2		22	16.[illegible]
150	30	13,711	-54.5		22	11.3
125	30	14,879	-55.0		21	[illegible].5
100	[illegible]	16,301	-55.9		20	[illegible]
80	[illegible]	17,715	-58.3		17	[illegible]
70	30	18,554	-58.7		13	2.0
60	30	19,523	-58.1		09	2.2
50	30	20,673	-57.9		08	[illegible].8
40	29	22,082	-56.4		08	[illegible].4
30	29	23,916	-54.8		07	5.8
25	29	25,088	-53.0		07	6.0
20	29	26,535	-50.6		07	5.7
15	27	28,432	-46.[illegible]		09	[illegible].3
10	22	31,138	-40.7		09	4.[illegible]
7	11	33,572	-37.4			

* LIHUE KAUAI, HI
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	36	22.4	19.2	07	3.4
1000	31	162	22.0	18.2	08	4.2
950	31	606	18.3	16.0	09	5.7
900	31	1,068	15.1	12.9	09	5.4
850	31	1,551	11.9	9.3	10	4.8
800	31	2,057	10.9	-.7	10	5.3
750	31	2,595	9.7	-8.7	10	5.5
700	31	3,165	7.2	-12.1	11	4.3
650	31	3,771	3.[illegible]	-15.9	12	3.3
600	31	4,417	.0	-19.6	14	2.6
550	31	5,108	-4.3	-23.4	16	1.8
500	31	5,852	-9.6	-27.8	20	2.0
450	30	6,654	-15.2	-32.5	22	3.3
400	30	7,533	-21.6	-37.5	25	4.9
350	30	8,505	-29.[illegible]	-43.5	25	7.3
300	30	9,585	-37.6	-50.7	25	10.6
250	29	10,819	-47.3		26	14.[illegible]
200	29	12,261	-57.[illegible]		26	23.1
175	29	13,093	-63.2		26	26.5
150	29	14,030	-67.5		26	25.6
125	29	15,121	-70.2		26	19.[illegible]
100	29	16,446	-70.2		26	11.9
80	28	17,774	-68.7		26	5.5
70	28	18,578	-66.8		28	1.1
60	27	19,518	-64.2		08	3.8
50	27	20,641	-61.2		09	8.1
40	27	22,038	-57.7		09	10.[illegible]
30	25	23,881	-53.2		09	13.7
25	23	25,063	-50.8		09	14.4
20	23	26,525	-48.1		09	13.7
15	22	28,438	-44.5		09	12.7
10	16	31,188	-40.7		09	11.3
7	6	33,642	-36.[illegible]			
5						

LITTLE ROCK, AR
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	79	16.3	14.9	18	.3
1000	7	178	18.3	13.0		
950	31	586	19.7	11.6	20	3.5
900	31	1,050	16.8	9.[illegible]	21	4.2
850	31	1,535	13.6	6.8	21	4.8
800	31	2,044	10.9	.[illegible]	21	4.8
750	31	2,579	8.0	-4.3	22	4.1
700	31	3,145	4.5	-8.5	22	3.3
650	31	3,745	.8	-11.8	24	3.9
600	31	4,383	-3.4	-15.[illegible]	25	3.9
550	31	5,066	-7.7	-20.[illegible]	25	4.1
500	31	5,801	-12.5	-26.6	26	4.3
450	31	6,597	-18.0	-30.8	26	4.4
400	31	7,467	-24.3	-37.5	26	5.7
350	31	8,428	-31.8	-44.0	27	5.6
300	31	9,496	-40.4	-51.0	28	6.3
250	31	10,713	-49.9		28	8.7
200	31	12,140	-59.8		29	13.8
175	31	12,967	-63.1		29	14.3
150	31	13,914	-62.9		28	13.7
125	31	15,040	-62.2		27	12.1
100	31	16,416	-63.5		28	9.1
80	30	17,780	-64.9		30	4.9
70	30	18,596	-64.2		32	2.2
60	30	19,545	-61.8		03	2.0
50	30	20,683	-58.7		07	2.7
40	30	22,095	-55.7		08	1.9
30	30	23,940	-52.6		08	1.6
25	30	25,122	-51.1		10	1.6
20	30	26,581	-48.7		07	1.5
15	30	28,489	-44.9		04	1.2
10	27	31,227	-40.0		06	.6
7	16	33,665	-34.4		10	.5
5	5	36,086	-32.5			

LONGVIEW, TX
1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	124	18.4	16.[illegible]	15	1.0
1000	21	140	18.3	16.[illegible]	17	1.[illegible]
950	31	569	19.5	13.[illegible]	19	[illegible].0
900	31	1,033	17.4	8.[illegible]	19	6.0
850	31	1,520	15.1	2.7	19	5.0
800	31	2,031	12.4	-.4	20	4.3
750	31	2,570	9.3	-3.7	21	3.3
700	31	3,138	5.8	-8.4	24	[illegible].0
650	31	3,740	1.8	-10.7	25	3.4
600	31	4,381	-2.4	-15.4	26	4.1
550	31	5,066	-6.9	-20.5	27	5.0
500	31	5,802	-12.1	-24.8	27	5.[illegible]
450	31	6,600	-17.7	-31.7	27	6.[illegible]
400	31	7,471	-24.0	-37.4	27	7.[illegible]
350	31	8,434	-31.1	-43.4	28	9.[illegible]
300	31	9,505	-39.5	-49.8	28	12.3
250	31	10,727	-49.1		28	14.[illegible]
200	31	12,158	-59.3		28	19.2
175	31	12,986	-63.1		28	21.2
150	31	13,933	-63.1		28	17.1
125	31	15,056	-63.0		27	14.3
100	31	16,423	-65.3		27	9.4
80	31	17,773	-67.2		26	4.8
70	31	18,582	-65.5		30	[illegible].4
60	31	19,526	-62.8		07	2.3
50	31	20,660	-59.3		08	3.[illegible]
40	31	22,068	-56.0		08	2.5
30	30	23,914	-52.7		08	2.[illegible]
25	30	25,096	-51.1		07	2.5
20	29	26,554	-48.5		08	[illegible].8
15	28	28,467	-44.5		27	1.0
10	23	31,212	-39.7		27	.[illegible]
7	10	33,608	-36.4			

MCGRATH, AK
996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	103	2.6	-2.3	25	.7
1000	10	136	4.3	-2.3	24	1.3
950	31	485	3.5	-3.4	19	.7
900	31	921	.5	-5.3	16	2.5
850	31	1,377	-2.9	-7.[illegible]	16	[illegible].3
800	31	1,855	-6.3	-9.7	16	4.2
750	31	2,356	-9.9	-13.[illegible]	17	4.9
700	31	2,885	-13.3	-16.4	16	5.4
650	31	3,446	-16.6	-21.[illegible]	16	[illegible].8
600	31	4,043	-20.4	-25.5	16	6.1
550	31	4,683	-24.4	-31.[illegible]	16	6.5
500	31	5,371	-28.9	-36.2	15	7.0
450	31	6,117	-34.1	-40.5	16	8.4
400	31	6,931	-40.2	-41.3	16	8.5
350	31	7,833	-46.3		16	9.5
300	31	8,844	-50.4		16	9.0
250	31	10,037	-48.3		18	6.[illegible]
200	31	11,517	-45.5		18	4.[illegible]
175	31	12,407	-45.7		17	5.3
150	31	13,435	-45.9		18	4.3
125	31	14,647	-46.7		17	4.2
100	30	16,125	-48.0		16	4.0
80	30	17,593	-48.9		16	[illegible].4
70	30	18,470	-49.0		14	3.6
60	30	19,483	-49.1		13	3.5
50	29	20,679	-49.4		13	4.2
40	29	22,142	-49.5		12	4.[illegible]
30	29	24,027	-49.4		09	5.7
25	28	25,230	-48.6		09	6.4
20	28	26,702	-47.3		09	7.[illegible]
15	24	28,622	-44.4		09	8.3
10	16	31,439	-38.7		09	[illegible].6
7	7	34,061	-31.9			

* MAJURO, MARSHALL IS.
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	28.0	24.7	07	5.[illegible]
1000	31	103	26.[illegible]	23.6	07	6.3
950	31	556	23.3	21.7	08	[illegible].1
900	31	1,028	20.6	18.3	08	[illegible].1
850	31	1,521	18.[illegible]	15.1	09	[illegible].7
800	31	2,040	15.6	11.3	10	7.7
750	31	2,587	13.[illegible]	7.6	10	7.2
700	31	3,165	10.0	4.1	09	6.6
650	31	3,778	6.5	1.[illegible]	10	[illegible].3
600	31	[illegible],432	[illegible].8	-1.6	10	4.2
550	31	5,133	-.6	-6.[illegible]	09	3.1
500	31	[illegible],890	-4.5	-12.[illegible]	08	[illegible].6
450	31	6,713	-9.3	-17.[illegible]	09	1.2
400	31	7,615	-14.7	-24.6	24	.5
350	31	8,616	-21.4	-31.[illegible]	26	[illegible].4
300	31	9,732	-29.6	-40.[illegible]	25	4.3
250	31	11,005	-39.[illegible]	-49.9	25	6.4
200	31	12,489	-52.5		26	8.5
175	31	13,338	-59.4		26	9.[illegible]
150	31	14,286	-66.9		26	[illegible].4
125	31	15,369	-74.1		26	10.0
100	31	16,647	-79.8		27	8.6
80	31	17,910	-77.8		29	[illegible]
70	31	18,684	-72.3		10	[illegible].8
60	31	19,601	-68.1		10	6.5
50	31	20,708	-63.7		09	13.[illegible]
40	31	22,092	-59.5		09	22.8
30	29	23,918	-53.4		09	28.5
25	29	25,103	-49.[illegible]		09	30.3
20	27	26,580	-44.5		09	28.5
15	20	28,539	-38.4		09	14.1
10	13	31,368	-33.8			

* MEDFORD, OR
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	401	6.8	3.7	29	.4
1000						
950	31	558	7.3	3.2	28	1.0
900	31	1,002	5.2	1.4	26	1.5
850	31	1,467	2.0	-.7	25	1.7
800	31	1,954	-.7	-4.8	26	2.7
750	31	2,467	-3.4	-11.1	26	4.1
700	31	3,010	-6.6	-14.0	26	4.8
650	31	3,586	-9.8	-19.2	26	6.1
600	31	4,200	-13.5	-24.2	26	6.8
550	31	4,856	-18.0	-28.1	27	7.6
500	31	5,561	-22.8	-31.6	26	8.8
450	30	6,327	-26.1	-36.5	27	10.3
400	30	7,162	-34.1	-42.2	27	11.1
350	30	8,087	-40.5	-45.7	27	11.6
300	30	9,122	-46.2		28	14.2
250	29	10,318	-50.5		28	14.6
200	29	11,767	-52.[illegible]		28	10.7
175	29	12,632	-52.3		28	[illegible].7
150	29	13,629	-52.2		27	7.3
125	29	14,805	-53.5		26	5.0
100	28	16,236	-54.9		23	3.3
80	28	17,661	-55.6		20	2.1
70	28	18,511	-56.6		16	1.7
60	28	19,487	-57.2		14	1.8
50	28	20,640	-57.3		11	2.0
40	28	22,054	-56.4		09	2.6
30	26	23,885	-54.8		09	4.0
25	26	25,056	-53.1		08	2.7
20	25	26,508	-49.9		07	2.9
15	25	28,400	-46.8		08	4.2
10	13	31,180	-39.9		08	6.6
7	5	33,726	-32 2			

MERIDA, MEXICO
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	11	22.2	21.4	10	1.4
1000	31	106	22.6	20.8	10	3.7
950	31	553	21.5	18.6	12	7.3
900	31	1,022	19.6	13.3	12	5.5
850	31	1,513	17.3	9.1	11	2.2
800	31	2,029	14.4	4.5	34	.7
750	31	2,572	11.2	-2.7	30	1.3
700	31	3,144	7.9	-7.8	31	2.5
650	31	3,752	4.9	-12.1	33	3.3
600	31	4,401	1.3	-15.2	34	4.4
550	31	5,096	-2.8	-20.0	33	5.3
500	31	5,844	-7.6	-25.5	33	6.0
450	31	6,656	-13.1	-29.8	32	6.6
400	31	7,543	-19.3	-35.0	31	8.1
350	31	8,525	-26.6	-40.3	31	10.2
300	31	9,617	-34.9	-47.2	30	14.2
250	30	10,861	-44.7		29	17.8
200	29	12,316	-55.8		29	21.5
175	29	13,156	-61.2		29	22.7
150	29	14,102	-66.0		26	20.1
125	28	15,199	-69.3		29	15.4
100	28	16,522	-72.2		30	8.0
80	28	17,828	-74.1		02	2.1
70	28	18,609	-72.0		09	4.8
60	26	19,526	-67.2		09	7.1
50	26	20,642	-61.3		09	8.5
40	26	22,042	-56.8		08	9.1
30	25	23,887	-52.1		08	12.5
25	24	25,075	-49.9		09	14.0
20	24	26,543	-47.3		09	13.9
15	22	28,459	-44.1		08	13.7
10	17	31,222	-39.3			

MIDLAND, TX
912 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	874	18.6	14.7	17	4.7
1000						
950						
900	29	989	18.8	14.7	18	6.0
850	29	1,481	18.3	8.0	19	9.4
800	29	1,999	16.7	1.[illegible]	21	7.9
750	29	2,546	13.6	-4.9	22	6.4
700	29	3,122	9.1	-9.2	23	6.1
650	29	3,730	4.3	-13.1	23	7.[illegible]
600	29	4,375	-1.2	-16.3	24	8.7
550	29	5,061	-6.8	-20.7	24	9.8
500	29	5,797	-12.2	-26.0	25	11.2
450	29	6,594	-17.6	-31.6	25	12.6
400	29	7,465	-24.0	-37.1	25	13.[illegible]
350	29	8,427	-31.5	-43.9	25	14.7
300	29	9,497	-39.8	-50.[illegible]	25	17.4
250	29	10,718	-49.2		25	20.[illegible]
200	28	12,148	-58.3		26	25.2
175	28	12,980	-62.3		26	26.3
150	27	13,933	-62.6		26	23.[illegible]
125	27	15,060	-62.2		26	18.[illegible]
100	27	16,434	-63.6		25	11.5
80	27	17,795	-66.4		23	5.5
70	27	18,605	-65.2		22	3.2
60	27	19,555	-61.6		10	1.[illegible]
50	27	20,693	-58.7		08	2.[illegible]
40	27	22,104	-55.8		08	2.7
30	27	23,951	-52.4		08	2.7
25	26	25,131	-50.7		08	1.8
20	26	26,594	-48.0		07	2.0
15	25	28,499	-44.9		30	1.2
10	22	31,236	-39.4		23	2.2
7	14	33,693	-35.3		24	2.4

MONTERREY, MEXICO
960 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	423	21.1	19.8	14	1.[illegible]
1000						
950	31	545	20.8	19.3	13	1.8
900	31	1,012	18.5	16.4	14	4.4
850	31	1,503	18.3	8.9	15	5.7
800	31	2,023	17.8	2.3	17	4.[illegible]
750	31	2,572	15.2	-3.[illegible]	21	[illegible].3
700	31	3,152	10.8	-7.4	25	2.2
650	31	3,764	5.9	-10.[illegible]	28	3.1
600	31	4,413	.4	-13.6	29	5.2
550	31	5,103	-5.4	-15.3	28	7.0
500	31	5,844	-10.8	-21.1	27	[illegible].0
450	31	6,647	-15.4	-27.[illegible]	27	10.1
400	31	7,526	-21.5	-33.8	27	13.1
350	31	8,499	-28.8	-40.0	27	15.7
300	31	9,580	-37.4	-49.1	27	18.4
250	31	10,814	-47.0		27	24.0
200	31	12,257	-57.9		27	30.9
175	31	13,088	-63.1		27	31.[illegible]
150	31	14,028	-66.2		27	26.8
125	30	15,129	-67.7		27	19.8
100	29	16,467	-69.9		26	11.0
80	29	17,787	-71.7		25	3.[illegible]
70	29	18,580	-69.4		13	1.5
60	29	19,513	-63.7		09	4.3
50	29	20,642	-59.9		09	5.[illegible]
40	29	22,046	-56.9		08	6.2
30	27	23,885	-52.4		08	8.2
25	26	25,070	-50.3		08	8.3
20	25	26,534	-47.5		08	7.3
15	24	28,449	-43.8		08	6.2
10	18	31,206	-39.5		08	4.1

MONETT, MO
965 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	438	15.9	13.7	15	2.7
1000						
950	31	570	18.2	13.3	18	4.1
900	31	1,034	17.0	10.4	22	7.3
850	31	1,520	13.8	7.5	23	7.3
800	31	2,029	11.1	2.2	23	6.8
750	31	2,565	8.0	-2.[illegible]	23	6.5
700	31	3,131	4.1	-6.6	23	5.9
650	31	3,730	.[illegible]	-10.9	23	5.1
600	31	4,367	-3.7	-15.4	23	5.8
550	31	5,049	-8.0	-21.[illegible]	23	6.3
500	31	5,783	-12.6	-25.8	23	5.8
450	31	6,580	-17.[illegible]	-31.[illegible]	24	6.7
400	31	7,450	-24.4	-37.1	24	7.7
350	31	8,412	-31.[illegible]	-43.0	25	7.5
300	31	9,480	-40.1	-49.[illegible]	25	7.3
250	30	10,698	-49.9		27	9.6
200	29	12,123	-60.2		27	13.6
175	29	12,949	-63.4		28	14.7
150	29	13,898	-62.[illegible]		27	11.4
125	29	15,030	-60.[illegible]		27	10.4
100	29	16,415	-61.7		27	7.7
80	29	17,791	-63.7		29	4.0
70	29	18,611	-62.9		32	1.7
60	29	19,566	-60.[illegible]		03	1.6
50	29	20,708	-58.3		06	2.3
40	28	22,122	-55.[illegible]		07	2.6
30	27	23,966	-52.8		09	2.2
25	27	25,148	-51.[illegible]		08	1.9
20	25	26,609	-48.9		08	2.[illegible]
15	25	28,516	-45.0		07	1.[illegible]
10	22	31,250	-39.[illegible]		07	1.0
7	10	33,758	-35.1			

RAWINSONDE DATA

Average monthly values

MAY 1977

NASHVILLE, TN
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	180	16.1	14.2	12	.5
1000	10	189	15.8	12.8	16	.5
950	31	593	18.4	10.9	18	2.8
900	31	1,055	15.7	8.3	22	2.2
850	31	1,538	12.7	4.2	23	2.0
800	31	2,045	9.6	1.1	26	2.1
750	31	2,578	[illegible]	-3.7	27	2.0
700	31	3,141	3.1	-8.2	28	2.2
650	31	3,737	-.5	-11.3	29	2.4
600	31	4,373	-4.4	-15.1	29	2.9
550	31	5,054	-8.4	-21.1	28	3.0
500	31	5,787	-13.1	-26.4	28	4.3
450	30	6,585	-18.5	-31.0	29	4.8
400	30	7,452	-24.9	-37.2	30	5.3
350	30	8,412	-32.2	-42.9	30	6.4
300	30	9,478	-40.8	[illegible]	31	7.1
250	30	10,694	-50.3		30	8.3
200	30	12,117	-60.4		30	9.8
175	30	12,942	-63.4		30	10.7
150	30	13,890	-62.6		29	10.8
125	29	15,016	-61.9		29	10.5
100	29	16,396	-62.7		30	8.5
80	29	17,766	-64.1		31	5.8
70	29	18,586	-62.9		33	3.8
60	29	19,542	-60.3		36	2.5
50	29	20,686	-57.5		03	2.0
40	29	22,103	-55.3		07	1.7
30	28	23,953	-52.6		09	2.6
25	28	25,135	-51.0		10	2.8
20	27	26,595	-48.7		08	1.8
15	29	28,500	-45.5		08	1.3
10	25	31,241	-38.9		06	1.4
7	14	33,708	-34.0			

• NOME, AK
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	-.5	-4.6	09	1.4
1000	25	82	.0	-2.5	13	1.5
950	31	472	-1.4	-4.2	14	3.4
900	31	901	-3.5	-6.4	16	3.8
850	31	1,351	-5.9	-10.6	16	4.5
800	31	1,824	-8.4	-14.9	16	4.7
750	31	2,323	-11.0	-18.7	16	4.7
700	31	2,850	-13.9	-22.6	16	4.9
650	31	3,410	-16.8	-27.1	16	4.9
600	31	4,007	-20.2	-30.6	16	[illegible]
550	31	4,666	-24.3	-35.5	16	5.1
500	31	5,335	-28.8	-39.7	16	4.5
450	31	6,081	-34.0	-44.1	16	3.5
400	31	6,896	-39.8	-45.8	16	3.8
350	31	7,800	-45.9		16	3.9
300	31	8,812	-49.8		13	2.9
250	31	10,006	-48.0		13	2.5
200	31	11,491	-45.1		19	2.7
175	30	12,383	-45.4		19	2.9
150	30	13,411	-45.8		18	[illegible]
125	30	14,624	-46.4		18	2.9
100	28	16,104	-47.3		17	3.0
80	22	17,573	-48.1		15	2.9
70	22	18,453	-48.5		14	3.0
60	22	19,467	-48.4		14	[illegible]
50	22	20,667	-48.6		12	[illegible]
40	22	22,135	-48.8		11	4.4
30	22	24,026	-48.6		10	5.1
25	22	25,227	-48.0		09	[illegible]
20	21	26,707	-46.6		09	7.2
15	20	28,615	-45.0		09	7.7
10	11	31,350	-40.0			
7						

NORTH PLATTE, NE
914 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	847	12.8	10.4	14	2.4
1000						
950						
900	31	978	13.5	9.9	15	3.6
850	31	1,459	12.9	6.0	19	6.8
800	31	1,969	11.7	.5	21	7.0
750	31	2,506	8.5	-3.9	22	6.2
700	31	3,072	4.4	-7.6	21	6.9
650	31	3,671	.2	-11.6	22	7.5
600	31	4,307	-4.4	-15.5	22	7.3
550	31	4,987	-9.1	-20.5	22	7.5
500	31	5,717	-14.2	-26.1	22	8.6
450	31	6,508	-19.8	-31.8	22	10.2
400	31	7,372	-26.3	-36.9	22	11.4
350	30	8,323	-33.9	-44.0	22	13.4
300	30	9,381	-42.4	-47.0	22	15.3
250	29	10,587	-51.5		22	16.1
200	28	12,011	-58.7		22	17.8
175	28	12,846	-60.2		23	15.3
150	28	13,812	-57.6		22	11.6
125	28	14,963	-58.0		23	9.5
100	28	16,367	-58.6		23	6.2
80	28	17,764	-60.4		24	1.5
70	28	18,596	-60.1		18	.3
60	28	19,561	-59.3		05	1.5
50	28	20,707	-57.6		07	2.6
40	28	22,121	-56.1		07	3.8
30	28	23,964	-53.3		07	3.7
25	28	25,142	-51.9		08	4.3
20	28	26,597	-48.9		08	3.8
15	26	28,497	-45.8		08	4.3
10	23	31,242	-39.3		10	3.6
7	9	33,690	-33.9			

OAKLAND, CA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	6	10.8	7.8	25	1.0
1000	31	126	10.5	7.2	25	1.6
950	31	552	8.4	3.8	28	2.7
900	31	998	7.5	-2.1	29	4.2
850	31	1,467	5.5	-5.5	29	3.8
800	31	1,960	2.8	-8.9	29	3.5
750	31	2,480	.2	-13.0	29	4.3
700	31	3,030	-2.9	-17.1	30	5.3
650	31	3,613	-6.4	-20.9	29	6.6
600	31	4,234	-10.0	-24.3	29	7.7
550	31	4,900	-14.1	-28.1	29	9.4
500	31	5,617	-18.7	-31.0	29	11.9
450	31	6,394	-24.0	-36.1	29	13.8
400	31	7,242	-30.7	-41.7	30	14.8
350	31	8,181	-37.3	-46.3	30	16.6
300	30	9,223	-44.2		30	19.4
250	30	10,428	-50.7		30	20.2
200	30	11,867	-54.9		29	19.0
175	29	12,722	-55.6		29	16.2
150	29	13,706	-55.1		28	13.5
125	29	14,869	-56.1		27	[illegible]
100	29	16,283	-57.3		26	5.6
80	29	17,694	-57.1		24	2.8
70	28	18,539	-57.6		19	1.2
60	28	19,512	-57.8		14	.7
50	28	20,665	-57.1		09	1.8
40	27	22,079	-56.3		08	2.7
30	26	23,912	-54.2		07	2.9
25	26	25,085	-52.6		07	1.9
20	26	26,538	-49.5		08	2.4
15	23	28,441	-45.7		06	1.9
10	20	31,171	-40.6		06	2.0
7	10	33,598	-36.0			

OMAHA, NE
966 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	403	15.6	13.2	17	2.0
1000						
950	31	542	17.0	12.4	19	4.4
900	31	1,004	16.2	9.8	20	7.5
850	31	1,488	13.4	6.5	21	7.2
800	31	1,997	10.7	1.7	21	6.8
750	31	2,532	7.4	-2.9	21	7.0
700	31	3,097	3.6	-7.4	21	6.7
650	31	3,694	-.2	-11.3	21	6.8
600	31	4,331	-4.1	-16.0	22	6.6
550	31	5,011	-8.4	-21.4	22	6.6
500	31	5,744	-13.2	-26.3	22	7.2
450	31	6,538	-18.6	-30.5	22	8.6
400	31	7,405	-25.1	-36.5	22	9.4
350	31	8,364	-32.5	-43.4	23	9.5
300	31	9,429	-41.1	-47.6	23	11.9
250	31	10,642	-50.7		23	14.5
200	31	12,064	-60.1		24	16.3
175	31	12,894	-61.7		25	13.2
150	31	13,851	-60.4		24	8.9
125	31	14,991	-59.3		24	7.9
100	31	16,389	-59.8		27	5.5
80	31	17,778	-61.0		29	2.6
70	31	18,609	-60.8		32	1.4
60	30	19,573	-59.8		02	1.5
50	30	20,718	-57.6		05	2.9
40	30	22,133	-55.8		07	3.2
30	30	23,977	-53.4		08	3.9
25	30	25,154	-52.1		08	4.5
20	29	26,602	-49.5		08	3.3
15	27	28,494	-46.1		09	3.3
10	24	31,235	-40.2		09	3.6
7	10	33,680	-35.0			

PAGO PAGO, AMERICAN SAMOA
◆ 1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	28.5	23.6	11	3.0
1000	31	103	27.1	22.9	11	3.1
950	31	556	23.4	20.6	10	2.8
900	31	1,027	19.9	17.7	10	2.0
850	31	1,519	16.9	13.6	05	[illegible]
800	31	2,035	15.0	[illegible]	35	1.8
750	31	2,582	13.3	4.4	33	1.9
700	31	3,160	10.2	-.5	32	2.3
650	31	3,773	6.9	-4.7	32	1.8
600	31	4,427	3.1	-8.7	29	1.7
550	31	5,127	-1.1	-13.8	29	2.1
500	31	5,881	-5.6	-18.7	28	2.7
450	31	6,700	-10.5	-23.6	27	3.7
400	31	7,597	-16.3	-30.0	26	5.0
350	31	8,591	-23.2	-36.4	25	6.4
300	30	9,698	-31.6	-43.7	25	7.6
250	30	10,960	-42.1		25	8.7
200	30	12,431	-54.2		25	11.0
175	30	13,274	-61.2		24	12.0
150	30	14,214	-68.5		24	14.2
125	30	15,290	-75.0		25	11.2
100	30	16,567	-79.4		26	6.5
80	30	17,837	-77.5		29	3.4
70	30	18,610	-73.6		36	.5
60	30	19,523	-68.4		08	4.3
50	30	20,633	-62.6		08	7.7
40	30	22,021	-58.7		09	11.8
30	30	23,851	-53.4		09	17.2
25	28	25,040	-49.7		09	18.0
20	27	26,506	-46.7		09	[illegible]
15	27	28,428	-43.0		09	8.7
10	24	31,201	-37.0		27	3.3
7	11	33,685	-33.8			

• PEORIA, IL
993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	200	14.3	11.1	13	.9
1000						
950	31	578	18.1	10.0	21	3.1
900	31	1,040	15.6	7.6	23	4.1
850	31	1,523	12.8	3.0	23	4.2
800	31	2,030	10.0	-.1	24	4.0
750	31	2,564	6.7	-3.6	25	3.6
700	30	3,127	3.0	-7.1	24	3.7
650	30	3,724	-.6	-11.6	25	4.1
600	30	4,359	-4.0	-16.7	26	4.6
550	30	5,041	-8.2	[illegible]	26	5.4
500	30	5,774	-13.3	-29.7	27	6.0
450	30	6,568	-18.4	[illegible]	27	6.4
400	30	7,435	-25.1	-38.4	28	6.1
350	30	8,394	-32.3	-45.4	28	6.8
300	30	9,460	-40.9	-51.1	29	8.2
250	30	10,675	-50.4		28	10.5
200	30	12,098	-60.3		29	12.1
175	30	12,924	-63.1		29	10.4
150	30	13,875	-61.8		29	[illegible]
125	30	15,011	-60.0		28	[illegible]
100	30	16,403	-60.7		30	6.9
80	30	17,788	-61.3		32	5.0
70	30	18,619	-60.5		34	3.6
60	30	19,583	-58.7		01	[illegible]
50	30	20,734	-56.7		04	[illegible]
40	27	22,156	-54.8		06	2.9
30	27	24,008	-52.3		08	[illegible]
25	25	25,190	-50.9		09	3.6
20	25	26,653	-47.9		07	3.8
15	23	28,974	-44.8		09	3.8
10	18	31,315	-38.2		09	4.7
7	7	33,733	-34.9			

• PITTSBURGH, PA
976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	359	12.6	7.5	24	.6
1000						
950	31	587	15.6	7.1	26	2.1
900	31	1,046	14.0	4.1	30	4.0
850	31	1,525	11.1	1.6	31	4.8
800	31	2,029	7.8	-1.4	31	5.8
750	31	2,558	4.7	-6.3	31	6.2
700	31	3,117	1.1	-10.2	31	6.6
650	31	3,710	-2.3	-14.5	31	7.5
600	31	4,341	-5.9	-20.0	31	8.5
550	31	5,017	-10.0	-25.0	31	9.3
500	31	5,746	-14.7	-30.1	31	9.7
450	31	6,535	-20.2	-33.8	31	9.8
400	31	7,397	-26.3	-39.5	31	11.6
350	31	8,352	-33.5	-44.2	31	12.2
300	31	9,412	-41.8	-51.0	31	13.4
250	31	10,624	-50.9		31	16.9
200	31	12,048	-59.6		31	15.8
175	31	12,877	-62.6		31	14.6
150	31	13,828	-61.9		31	12.1
125	31	14,961	-60.7		31	10.9
100	31	16,351	-60.6		32	9.1
80	30	17,737	-60.0		33	5.6
70	30	18,573	-58.9		34	4.1
60	30	19,545	-57.4		36	2.0
50	30	20,702	-55.8		04	1.6
40	29	22,127	-54.1		08	1.5
30	28	23,981	-52.1		10	1.6
25	28	25,163	-51.3		07	2.1
20	28	26,621	-49.2		08	3.1
15	28	28,523	-45.4		09	4.1
10	20	31,237	-39.2		11	1.7
7						

PONAPE, CAROLINE IS.
◆ 1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	39	28.3	24.5	08	3.0
1000	30	87	27.0	23.3	08	3.6
950	30	541	23.6	21.0	08	6.8
900	30	1,012	20.5	17.5	08	8.4
850	30	1,505	17.9	14.2	09	7.7
800	30	2,024	15.7	10.3	09	6.9
750	30	2,570	13.0	6.7	10	[illegible]
700	30	3,148	9.9	3.4	10	5.6
650	30	3,761	6.6	-.7	10	4.8
600	30	4,415	2.9	-4.7	09	4.4
550	30	5,115	-.8	-8.7	10	4.1
500	30	5,872	-4.7	-13.0	09	3.2
450	30	6,695	-9.2	-19.3	08	1.8
400	30	7,596	-15.0	-26.0	08	.3
350	30	8,596	-21.6	-32.9	28	.7
300	30	9,711	-29.9	-42.4	24	1.8
250	30	10,983	-40.1	-52.8	23	3.5
200	30	12,465	-52.8		23	5.0
175	30	13,314	-59.6		24	4.3
150	30	14,260	-67.4		27	4.9
125	30	15,338	-75.1		28	4.0
100	30	16,615	-80.1		27	[illegible]
80	30	17,874	-78.3		03	1.9
70	30	18,648	-72.5		08	3.3
60	27	19,566	-67.9		09	[illegible]
50	26	20,677	-63.5		10	[illegible]
40	26	22,059	-59.8		09	23.3
30	24	23,882	-53.7		09	29.0
25	23	25,067	-49.6		09	[illegible]
20	21	26,548	-44.1		09	30.7
15	19	28,496	-39.1		09	17.1
10	15	31,295	-35.5		10	5.3
7						

PORTLAND, ME
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	20	10.2	4.9	33	1.6
1000	29	125	11.8	3.0	32	2.5
950	31	547	12.0	.6	33	4.9
900	31	998	9.3	-2.0	33	[illegible]
850	31	1,469	6.1	-3.3	34	6.1
800	31	1,963	3.0	-7.0	33	7.2
750	31	2,483	.2	-10.1	32	8.1
700	31	3,034	-2.3	-14.3	32	8.9
650	31	3,619	-5.2	-18.3	31	10.4
600	31	4,244	-8.8	-21.7	31	12.0
550	31	4,912	-13.0	-26.2	31	13.7
500	31	5,632	-18.1	-31.0	31	15.4
450	31	6,410	-23.5	-37.6	31	16.8
400	31	7,262	-29.6	-42.5	31	18.7
350	31	8,204	-36.4	-46.1	31	[illegible]
300	31	[illegible]	-44.4		30	22.0
250	31	10,454	-51.2		30	23.8
200	31	11,886	-56.4		30	19.6
175	31	12,732	-56.8		30	16.3
150	31	13,710	-56.3		30	[illegible]
125	31	14,867	-56.8		30	11.4
100	31	16,282	-56.7		31	6.5
80	31	17,699	-55.9		32	3.7
70	31	18,551	-55.3		33	2.6
60	31	19,536	-54.6		01	[illegible]
50	30	20,708	-53.3		07	2.0
40	30	22,169	-52.3		09	2.2
30	29	24,017	-51.2		09	3.9
25	28	25,207	-50.0		09	4.9
20	27	26,676	-48.1		08	5.5
15	25	28,572	-43.8		08	5.9
10	17	31,327	-37.6		07	2.9
7						

• QUILLAYUTE, WA
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	58	6.3	5.3	15	1.0
1000	29	117	[illegible]	5.4	16	1.2
950	31	533	5.5	3.0	20	3.3
900	31	973	2.8	-.4	21	4.0
850	31	1,434	.5	[illegible]	21	4.5
800	31	1,919	-2.1	-8.4	21	4.4
750	31	2,429	-5.2	-13.5	21	4.5
700	31	2,968	-8.4	-17.4	22	4.7
650	31	3,539	-11.7	[illegible]	22	5.2
600	31	4,148	-15.6	-24.2	22	5.2
550	31	4,799	[illegible]	-28.8	22	5.5
500	31	5,500	-24.6	-33.4	23	5.2
450	31	6,260	-29.9	-39.8	23	5.2
400	31	7,089	-35.9	-45.4	23	4.8
350	31	8,007	-42.0		24	4.8
300	31	9,037	[illegible]		27	5.7
250	31	10,237	-49.6		28	6.8
200	31	11,699	-49.2		26	5.9
175	31	12,576	-49.0		25	5.2
150	31	13,587	-49.5		23	4.1
125	31	14,778	[illegible]		22	4.3
100	31	16,223	-52.9		20	3.1
80	31	17,658	-54.2		18	3.1
70	31	18,514	[illegible]		17	2.5
60	29	19,496	-54.8		13	2.3
50	29	20,659	-55.6		11	2.6
40	28	22,081	-55.1		10	3.6
30	28	23,924	-53.8		09	4.5
25	26	25,104	-52.4		08	5.6
20	25	26,553	-50.3		08	5.8
15	23	28,456	-46.0		09	6.0
10	11	31,177	-40.6			
7						

RAPID CITY, SD
901 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	966	9.9	6.9	12	.5
1000						
950						
900	17	1,003	9.8	5.6	13	.7
850	31	1,450	11.6	[illegible]	20	3.7
800	31	1,955	9.7	.8	21	4.2
750	31	2,489	6.8	-2.6	21	5.2
700	31	3,052	2.9	-7.0	22	6.1
650	31	3,648	-1.4	-10.3	22	6.9
600	31	4,280	-5.9	-15.7	22	8.4
550	31	4,956	-10.6	-22.0	22	9.6
500	31	5,682	-16.0	-26.7	22	10.7
450	31	6,467	-21.6	-33.3	21	12.2
400	31	7,324	-27.8	-38.4	20	13.5
350	31	8,272	-35.4	-44.4	21	14.7
300	31	9,323	-43.9		21	[illegible]
250	31	10,525	-52.1		20	18.6
200	31	11,947	-57.8		22	18.6
175	31	12,790	-57.6		22	12.7
150	31	13,765	-56.5		22	10.2
125	31	14,923	-56.2		22	7.3
100	31	16,339	-57.3		22	4.7
80	31	17,746	-58.7		21	2.1
70	31	18,584	-58.6		16	1.0
60	31	19,555	-58.1		09	1.5
50	31	20,705	-57.5		09	2.6
40	31	22,120	-55.8		08	3.8
30	30	23,960	-53.5		07	4.6
25	29	25,137	-52.0		08	5.8
20	28	26,594	-49.4		08	[illegible]
15	27	28,502	-45.4		09	4.9
10	25	31,242	-39.3		09	5.3
7	10	33,668	-35.0			

ST CLOUD, MN
978 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	316	11.7	[illegible]	12	.4
1000						
950	31	557	15.8	[illegible]	21	3.1
900	31	1,016	14.3	5.9	23	4.5
850	31	1,497	11.7	[illegible]	23	6.8
800	31	2,002	8.8	-.8	22	5.0
750	31	2,534	5.4	-3.9	22	4.7
700	31	3,094	2.1	-8.7	23	5.4
650	31	3,689	-1.7	-13.4	23	6.2
600	31	4,321	-5.3	-20.0	24	6.3
550	31	4,999	-9.7	[illegible]	24	6.5
500	31	5,728	-14.7	-28.4	24	6.8
450	31	6,518	-20.2	-33.0	24	6.5
400	31	7,380	-26.3	-38.4	24	7.4
350	31	8,334	-33.7	-44.7	24	8.1
300	31	9,393	-42.4	-50.9	24	9.3
250	31	10,600	-51.8		25	11.7
200	31	12,018	-60.1		26	13.1
175	31	12,848	-61.5		26	8.5
150	30	13,812	-59.5		25	7.6
125	30	14,955	-58.4		26	5.8
100	30	16,358	-59.1		29	4.2
80	30	17,755	-59.6		32	3.0
70	30	18,591	-59.2		34	2.4
60	30	19,559	-58.3		03	2.5
50	30	20,711	-56.9		06	3.4
40	30	22,130	-55.1		07	4.4
30	30	23,976	-53.3		07	5.8
25	30	25,154	-51.8		08	6.1
20	29	26,616	-49.0		09	6.4
15	27	28,516	-45.3		08	5.4
10	20	31,255	-39.2		07	5.2
7						

■ ST PAUL ISLAND, AK
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	10	1.2	-.9	25	2.1
1000	22	106	.9	-.8	26	2.5
950	31	676	-1.6	-2.5	24	4.6
900	31	905	-4.2	[illegible]	24	4.8
850	31	1,353	-6.6	-10.0	24	5.1
800	31	1,825	-8.6	-13.9	25	4.8
750	31	2,324	-11.0	-18.4	25	4.7
700	31	2,851	-14.1	-23.2	25	4.7
650	31	3,410	-17.0	-27.5	25	4.9
600	31	4,007	-20.2	-29.7	25	5.2
550	31	4,647	-23.8	-33.8	26	5.5
500	31	5,337	-28.3	-37.1	27	4.9
450	31	6,084	-33.5	-41.3	27	5.6
400	31	6,901	-39.3	-46.5	27	6.4
350	31	7,809	-44.3		27	7.2
300	31	8,831	-47.5		27	7.8
250	31	10,034	-48.2		27	8.5
200	30	11,512	-46.3		26	7.1
175	30	12,400	-46.1		26	6.7
150	30	13,424	-46.8		25	4.8
125	30	14,630	-47.9		25	4.7
100	30	16,099	-48.8		23	3.4
80	30	17,561	-50.1		20	2.3
70	29	18,433	-49.8		18	1.6
60	28	19,440	-50.0		14	1.9
50	28	20,631	-50.2		13	2.3
40	28	22,087	-50.7		11	3.5
30	27	23,963	-50.5		10	5.0
25	26	25,155	-49.8		10	5.3
20	26	26,619	-48.6		10	6.3
15	25	28,516	-46.1		09	7.6
10	23	31,254	-40.1		09	8.3
7	6	33,826	-33.8			

SALEM, IL
996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	174	15.4	12.8	15	.9
1000	5	182	13.5	[illegible]		
950	31	578	19.0	8.9	22	4.2
900	31	1,041	16.3	6.7	24	[illegible]
850	31	1,524	12.8	3.9	24	4.3
800	31	2,031	9.8	.0	24	3.1
750	31	2,565	6.7	-4.4	24	2.7
700	31	3,128	3.4	-9.1	25	3.0
650	31	3,725	-.2	-11.8	25	3.3
600	31	4,361	-4.0	-15.4	26	4.0
550	31	5,043	-8.0	-20.1	27	4.7
500	31	5,777	-12.9	-26.9	27	[illegible]
450	31	6,572	-18.4	-31.2	28	5.0
400	31	7,440	-24.8	-36.0	29	[illegible]
350	31	8,400	-32.1	-42.9	29	7.3
300	31	9,467	-40.6	-49.5	29	8.7
250	31	10,683	-50.4		29	10.1
200	30	12,105	-60.4		30	11.7
175	30	12,930	-63.6		29	10.4
150	30	13,879	-61.7		29	10.0
125	30	15,012	-60.7		29	9.6
100	30	16,397	-61.5		30	8.4
80	30	17,779	-62.0		32	5.3
70	30	18,606	-61.5		33	3.6
60	30	19,565	-59.9		35	3.0
50	29	20,712	-57.1		04	2.7
40	29	22,129	-55.4		06	[illegible]
30	29	23,977	-52.5		08	2.6
25	29	25,180	-50.9		09	2.4
20	28	26,623	-48.5		09	2.8
15	25	28,527	-44.8		08	1.7
10	14	31,272	-39.2		03	1.5
7	9	33,735	-35.1			

RAWINSONDE DATA

Average monthly values

MAY 1977

SALEM, OR
1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	61	6.9	4.7	21	1.6
1000	30	129	7.7	5.8	22	1.9
950	31	545	6.4	3.4	24	2.7
900	31	991	3.8	1.1	24	3.4
850	31	1,453	.9	-2.2	25	4.6
800	31	1,938	-1.6	-6.5	25	5.5
750	31	2,449	-4.5	-10.7	25	6.0
700	31	2,990	-7.2	-15.6	25	6.4
650	31	3,564	-10.8	-18.7	25	7.0
600	31	4,175	-14.6	-24.3	25	8.0
550	31	4,829	-18.9	-29.2	25	7.6
500	31	5,532	-23.8	-33.5	26	7.7
450	31	6,293	-29.2	-36.9	26	8.6
400	31	7,125	-35.1	-42.3	26	9.3
350	31	8,046	-41.5	-43.5	27	10.4
300	31	9,076	-46.7		27	12.5
250	31	10,277	-49.6		28	12.3
200	31	11,734	-50.5		28	9.9
175	31	12,604	-50.6		27	8.1
150	31	13,610	-50.7		26	6.7
125	31	14,796	-51.7		24	4.4
100	31	16,235	-54.0		22	3.3
80	31	17,664	-55.1		20	2.5
70	31	18,516	-55.8		17	2.0
60	31	19,496	-56.5		15	1.9
50	31	20,652	-56.6		11	2.0
40	31	22,069	-56.1		10	3.5
30	31	23,907	-54.2		09	4.0
25	31	25,079	-53.0		09	4.3
20	29	26,535	-50.5		08	5.0
15	23	28,426	-47.4		09	5.2
10	19	31,155	-40.0		08	4.3
7						

SALT LAKE CITY, UT
867 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,288	8.7	3.3	15	2.5
1000						
950						
900						
850	31	1,451	9.1	.3	16	3.0
800	31	1,951	6.5	-2.8	19	3.4
750	31	2,478	2.9	-5.5	20	4.5
700	31	3,032	-1.4	-8.6	21	6.4
650	31	3,619	-5.7	-11.6	21	7.6
600	31	4,241	-10.2	-16.1	22	9.9
550	31	4,906	-14.7	-22.9	22	11.9
500	31	5,621	-19.4	-27.8	22	13.2
450	31	6,396	-24.8	-32.8	22	13.4
400	31	7,242	-31.3	-38.0	22	14.8
350	31	8,177	-38.3	-44.1	22	16.[illegible]
300	31	9,217	-46.0		22	19.2
250	31	10,411	-52.8		23	19.1
200	30	11,838	-55.4		22	17.3
175	30	12,690	-54.8		23	14.6
150	30	13,678	-54.5		22	12.1
125	30	14,844	-55.0		22	8.6
100	30	16,266	-56.5		21	5.4
80	30	17,678	-58.1		18	3.5
70	28	18,518	-59.0		17	2.1
60	27	19,487	-58.5		12	1.7
50	27	20,634	-58.1		10	2.4
40	27	22,043	-57.0		09	3.3
30	26	23,878	-54.2		07	3.7
25	26	25,052	-52.6		07	3.[illegible]
20	25	26,499	-50.0		07	4.4
15	22	28,390	-46.8		06	3.8
10	19	31,093	-40.3		11	2.4
7	9	33,519	-36.1			

SAN DIEGO, CA
999 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	124	12.9	10.3	19	.7
1000	14	133	12.8	9.7	18	.5
950	31	547	10.6	7.3	23	1.4
900	31	996	9.1	1.5	26	1.8
850	31	1,468	7.6	-5.0	28	3.3
800	31	1,967	6.1	-8.7	28	4.7
750	31	2,494	4.2	-14.2	27	6.0
700	31	3,052	1.6	-16.9	26	7.0
650	31	3,646	-1.3	-19.9	26	8.4
600	31	4,279	-5.1	-23.2	26	10.3
550	31	4,957	-9.5	-26.2	25	11.8
500	31	5,686	-14.7	-30.2	25	13.7
450	31	6,476	-20.0	-34.7	25	16.4
400	31	7,338	-26.5	-40.5	25	18.4
350	31	8,291	-34.0	-47.4	26	19.9
300	31	9,349	-42.2	-52.7	26	22.5
250	31	10,559	-50.9		26	25.8
200	31	11,987	-58.0		26	24.8
175	31	12,826	-58.9		26	25.4
150	31	13,794	-58.2		26	20.8
125	31	14,938	-59.6		25	16.0
100	31	16,329	-61.4		25	10.5
80	31	17,715	-60.8		24	5.3
70	31	18,546	-61.0		21	1.8
60	31	19,506	-59.8		12	1.5
50	31	20,649	-58.7		08	2.7
40	31	22,057	-56.9		09	3.1
30	28	23,892	-53.6		06	2.4
25	28	25,066	-52.7		05	3.0
20	27	26,521	-49.5		06	.6
15	25	28,421	-45.7		27	1.7
10	18	31,162	-40.5		36	1.4
7						

SAN JUAN, P. R.
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	6	25.0	22.1	13	2.1
1000	31	136	23.6	20.2	13	3.3
950	31	584	20.9	17.6	13	5.9
900	31	1,051	18.2	14.1	14	6.6
850	31	1,539	15.4	10.7	13	5.5
800	31	2,052	12.9	5.[illegible]	13	4.4
750	31	2,592	10.6	.3	14	3.1
700	31	3,165	8.2	-6.4	15	2.1
650	31	3,774	5.3	-10.7	17	1.6
600	31	4,423	1.6	-13.3	23	2.4
550	31	5,119	-2.6	-16.2	24	4.1
500	31	5,868	-7.3	-20.1	25	5.6
450	31	6,682	-12.2	-25.4	26	6.7
400	31	7,572	-18.3	-29.[illegible]	26	8.2
350	31	8,560	-24.8	-35.3	27	10.4
300	31	9,659	-33.3	-44.[illegible]	27	11.4
250	31	10,914	-43.2		27	16.2
200	31	12,377	-55.2		28	21.[illegible]
175	31	13,217	-61.7		28	22.2
150	31	14,156	-68.4		28	22.3
125	31	15,236	-72.9		28	17.[illegible]
100	31	16,539	-74.2		29	11.3
80	31	17,833	-75.5		32	3.6
70	30	18,611	-71.8		05	1.5
60	30	19,535	-65.6		10	5.3
50	29	20,658	-60.0		10	8.[illegible]
40	29	22,063	-56.8		10	12.7
30	28	23,898	-53.4		11	15.9
25	27	25,081	-50.7		11	17.[illegible]
20	27	26,547	-47.2		11	17.3
15	24	28,461	-43.7		11	16.2
10	16	31,218	-39.2		11	14.[illegible]
7						

■ SAULT STE MARIE, MI
991 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	221	8.1	4.0	05	.5
1000						
950	31	572	12.2	[illegible].0	23	1.9
900	31	1,024	10.8	.6	26	3.7
850	31	1,499	8.7	-1.1	28	5.1
800	31	1,999	6.2	-4.8	29	6.7
750	31	2,525	3.5	-8.2	29	8.2
700	31	[illegible],082	.3	-11.8	29	9.3
650	31	3,673	-3.0	-16.0	29	9.5
600	31	4,302	-6.6	-20.2	29	10.6
550	31	[illegible],977	-10.6	-24.6	29	11.4
500	31	5,703	-15.5	-30.6	30	11.4
450	31	6,490	-20.9	-35.4	30	12.6
400	31	7,350	-27.3	-41.4	30	13.7
350	31	[illegible],300	-34.4	-46.4	30	15.3
300	30	9,358	-42.8	-53.3	31	16.4
250	30	10,565	-51.5		31	16.6
200	30	11,987	-59.1		32	15.5
175	30	12,821	-60.7		31	13.6
150	30	13,783	-58.7		31	10.8
125	[illegible]	14,933	-57.9		31	9.7
100	30	16,339	-58.2		32	7.2
80	30	17,745	-58.0		34	5.3
70	30	18,588	-57.0		36	3.9
60	30	19,566	-56.1		02	4.0
50	30	20,729	-54.8		04	3.5
40	30	22,160	-53.8		06	4.1
30	30	24,017	-51.7		07	5.3
25	28	25,200	-50.6		08	5.9
20	28	26,662	-48.4		09	5.6
15	26	28,570	-44.9		08	6.2
10	23	31,312	-39.6		08	5.4
7	10	33,806	-35.1			

SPOKANE, WA
927 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	720	6.5	2.5	18	2.8
1000						
950						
900	31	967	7.3	.4	20	4.3
850	31	1,437	5.4	-2.6	23	4.0
800	31	1,930	1.7	-4.0	23	3.9
750	31	2,446	-2.1	-6.1	22	4.1
700	31	2,991	-5.8	-10.6	22	4.9
650	31	3,568	-9.6	-15.0	22	5.4
600	31	4,182	-13.[illegible]	-19.3	21	6.2
550	31	4,839	-17.8	-25.4	21	7.5
500	31	5,545	-22.6	-30.6	20	8.5
450	31	6,310	-27.9	-37.0	20	9.6
400	31	7,146	-34.0	-42.3	20	11.0
350	31	8,071	-40.6	-45.0	20	13.3
300	31	9,103	-46.9		19	14.6
250	31	10,299	-50.[illegible]		20	13.5
200	31	11,754	-49.7		20	8.7
175	31	12,628	-49.8		19	8.4
150	31	13,638	-49.[illegible]		20	7.8
125	31	14,829	-51.1		19	5.2
100	31	16,275	-52.6		18	4.3
80	31	17,710	-54.8		17	3.1
70	31	18,563	-55.1		16	2.5
60	31	19,547	-55.4		13	2.7
50	31	20,709	-55.3		11	2.8
40	31	22,135	-54.7		10	4.5
30	29	23,976	-53.4		08	5.1
25	29	25,153	-52.2		09	5.9
20	27	26,600	-49.9		08	5.6
15	26	28,495	-46.3		09	6.4
10	23	31,234	-39.3		09	6.1
7	12	33,668	-34.8			

TAMPA BAY, FL
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	13	18.5	17.3	07	1.1
1000	31	140	20.9	17.7	10	2.6
950	31	584	19.0	14.7	11	3.0
900	31	1,047	16.4	10.4	11	1.7
850	31	1,532	13.4	6.8	10	1.5
800	31	2,041	11.0	.5	12	1.3
750	31	2,577	8.7	-5.3	18	.7
700	31	3,145	5.7	-9.4	24	1.2
650	31	3,748	2.2	-12.7	28	1.7
600	31	4,389	-1.8	-16.8	28	[illegible].8
550	31	5,076	-5.9	-21.7	29	3.3
500	31	5,816	-10.8	-26.3	29	4.1
450	31	6,618	-16.3	-30.5	30	[illegible].8
400	31	7,493	-22.6	-36.5	28	7.8
350	31	8,462	-29.7	-42.9	28	9.[illegible]
300	31	9,540	-38.1	-50.3	28	11.6
250	31	10,769	-47.8		28	13.9
200	30	12,209	-57.7		28	16.9
175	30	13,045	-61.5		28	18.[illegible]
150	30	13,995	-63.1		28	16.[illegible]
125	30	15,115	-63.9		28	15.7
100	30	16,473	-67.0		29	11.5
80	30	17,813	-68.8		30	6.7
70	30	18,615	-67.0		33	3.[illegible]
60	30	19,555	-63.1		04	[illegible].3
50	30	20,688	-59.1		07	4.[illegible]
40	30	22,096	-56.3		08	7.2
30	30	23,943	-51.8		09	7.4
25	28	25,134	-49.8		10	6.4
20	28	26,602	-47.5		09	4.4
15	26	28,516	-43.9		09	3.1
10	26	31,268	-38.7		06	[illegible].6
7	16	33,739	-34.9		16	2.3

TOPEKA, KS
982 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	268	16.7	15.1	15	2.0
1000						
950	31	553	18.2	13.2	20	4.8
900	31	1,016	16.6	10.[illegible]	22	7.1
850	31	1,501	13.8	[illegible].8	22	7.2
800	31	2,011	11.4	1.1	22	6.5
750	31	2,547	8.1	-2.5	22	6.3
700	31	3,113	4.2	-6.2	22	6.4
650	31	3,712	.5	-12.0	23	6.4
600	31	4,350	-3.6	-17.1	23	6.4
550	31	5,032	-7.7	-22.[illegible]	23	6.8
500	31	5,767	-12.7	-28.0	23	7.1
450	31	6,563	-18.0	-31.1	23	8.9
400	31	7,432	-24.4	-36.1	24	9.2
350	31	8,393	-31.9	-43.0	24	9.7
300	31	9,460	-40.5	-47.3	23	11.0
250	31	10,676	-50.3		24	12.4
200	31	12,098	-60.5		25	14.8
175	31	12,924	-62.8		26	13.4
150	31	13,876	-61.6		26	9.7
125	31	15,011	-60.1		25	8.3
100	31	16,401	-61.2		27	6.7
80	30	17,779	-62.7		28	3.4
70	30	18,603	-61.9		33	1.3
60	30	19,560	-60.4		04	1.6
50	30	20,703	-58.1		06	2.6
40	29	22,118	-56.1		07	3.0
30	28	23,956	-53.5		09	3.1
25	27	25,132	-51.9		08	2.1
20	27	26,587	-49.3		07	2.1
15	23	28,485	-45.6		07	1.5
10	16	31,199	-40.4		34	1.0
7	8	33,678	-35.2			

● TRUK, CAROLINE IS.
1011 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	2	28.6	24.7	07	3.7
1000	31	101	27.4	23.4	08	4.[illegible]
950	31	555	23.8	21.[illegible]	08	6.5
900	31	1,027	21.0	17.6	09	7.1
850	31	1,521	18.1	14.3	09	6.0
800	31	2,040	15.7	10.8	10	5.7
750	31	2,587	13.1	6.1	10	5.2
700	31	3,164	9.9	3.7	10	4.8
650	31	3,778	6.7	-.[illegible]	09	4.[illegible]
600	31	4,432	3.1	-4.0	10	4.6
550	31	5,133	-.6	-7.[illegible]	10	3.[illegible]
500	31	5,890	-4.6	-14.3	09	2.2
450	31	6,713	-9.1	-20.0	09	1.3
400	31	7,615	-14.5	-26.8	04	.3
350	31	8,617	-21.4	-33.0	26	.1
300	31	9,732	-29.8	-41.[illegible]	22	1.4
250	31	11,005	-40.1	-51.[illegible]	21	2.6
200	31	12,487	-52.7		24	2.9
175	31	13,336	-59.8		24	3.8
150	31	14,281	-67.7		28	3.5
125	31	15,359	-74.7		29	3.1
100	31	16,636	-80.2		29	1.6
80	31	17,898	-78.1		05	2.7
70	31	18,671	-72.7		07	4.8
60	31	19,588	-67.7		09	7.2
50	31	20,697	-63.6		09	15.[illegible]
40	31	22,082	-59.1		09	23.6
30	28	23,913	-53.5		09	28.2
25	27	25,098	-49.6		09	29.7
20	26	26,580	-44.0		09	29.9
15	26	28,529	-40.0		09	18.[illegible]
10	22	31,328	-35.1		10	8.8
7	6	33,837	-34.3			

● TUCSON, AZ
922 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	789	14.9	-.7	19	1.8
1000						
950						
900	31	993	17.4	-.5	18	1.[illegible]
850	31	[illegible],478	14.6	-3.1	22	1.8
800	31	1,987	10.9	-5.7	21	3.6
750	31	2,521	7.1	-9.7	21	7.0
700	31	3,085	3.8	-13.5	21	9.9
650	31	3,684	.5	-17.7	22	11.2
600	31	[illegible],321	-3.5	-21.0	22	11.6
550	31	5,003	-8.2	-24.6	23	12.7
500	31	5,736	-13.1	-28.8	23	14.0
450	31	6,529	-18.9	-32.9	24	15.7
400	31	7,395	-25.7	-38.4	24	18.3
350	31	8,352	-32.8	-44.6	24	20.2
300	30	9,411	-41.4	-50.0	24	22.9
250	30	10,623	-50.5		25	26.3
200	29	12,050	-57.8		25	27.2
175	28	12,887	-59.4		25	27.6
150	28	13,853	-59.2		25	22.3
125	28	14,991	-60.6		25	18.8
100	28	16,379	-60.9		24	13.3
80	28	17,761	-62.3		22	5.5
70	28	18,585	-62.4		20	2.5
60	28	19,542	-60.2		09	2.2
50	28	20,684	-58.7		09	2.9
40	27	22,096	-55.8		08	2.9
30	27	23 941	-52.9		06	2.9
25	26	25,[illegible]21	-51.0		06	2.0
20	26	26,582	-48.2		06	1.9
15	26	28,491	-45.1		27	.5
10	19	31,217	-40.4		27	2.7
7						

■ VANDENBERG AFB, CA
1003 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	100	9.4	7.8	34	1.3
1000	27	132	9.8	8.1	34	2.0
950	31	552	10.0	4.2	35	4.7
900	31	1,001	8.8	-.3	34	3.9
850	31	1,472	6.7	-4.5	33	4.2
800	31	1,968	4.5	-9.3	32	4.6
750	31	2,491	2.0	-12.3	3[illegible]	5.1
700	31	3,045	-1.0	-17.0	29	5.9
650	31	3,633	-3.9	-20.6	29	7.8
600	31	4,260	-7.7	-23.2	29	9.2
550	31	4,932	-11.6	-26.5	29	11.0
500	31	5,656	-16.3	-31.0	29	12.[illegible]
450	31	6,440	-22.2	-36.3	28	14.1
400	31	7,294	-28.8	-41.4	28	15.2
350	31	8,239	-36.0	-47.3	28	16.0
300	31	9,290	-43.2		28	19.4
250	31	10,498	-51.0		28	19.2
200	31	11,931	-56.1		27	18.3
175	31	12,778	-57.1		27	17.6
150	31	13,753	-57.2		27	15.8
125	31	14,904	-58.1		26	13.0
100	30	16,306	-59.6		28	8.6
80	27	17,698	-58.8		23	3.4
70	24	18,539	-58.7		12	1.5
60	26	19,507	-58.8		14	1.2
50	25	20,656	-58.2		10	1.3
40	24	22,065	-56.7		09	2.0
30	24	23,899	-54.3		06	1.5
25	21	25,068	-52.7		04	1.3
20	20	26,517	-49.6		07	1.2
15	19	28,417	-46.7		24	.7
10	19	31,143	-41.0		05	.8
7	11	33,610	-35.0			

VICTORIA, TX
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	33	21.0	19.8	12	2.1
1000	31	10[illegible]	22.0	20.4	14	3.2
950	31	554	20.0	17.8	16	7.2
900	31	1,020	18.0	12.[illegible]	18	7.0
850	31	1,509	16.5	6.2	18	6.4
800	31	2,024	14.9	-1.9	19	5.2
750	31	2,568	12.4	-5.3	21	3.6
700	31	3,142	8.6	-7.0	24	3.0
650	31	3,750	4.1	-10.5	27	3.7
600	31	4,395	-.8	-14.7	28	4.[illegible]
550	31	5,083	-5.8	-20.3	28	5.7
500	31	5,822	-11.0	-24.7	28	6.[illegible]
450	31	6,624	-16.3	-29.7	27	8.0
400	31	7,499	-22.6	-35.1	28	10.9
350	31	8,468	-29.7	-41.2	28	14.8
300	31	9,546	-38.2	-48.7	28	16.6
250	31	10,775	-47.9		28	22.4
200	31	12,214	-57.9		28	27.5
175	31	13,046	-62.6		28	28.7
150	31	13,990	-64.4		28	23.8
125	31	15,105	-64.5		27	16.[illegible]
100	31	16,460	-67.5		27	10.7
80	30	17,800	-69.4		25	[illegible].4
70	30	18,600	-67.7		21	1.1
60	30	19,537	-63.4		09	3.2
50	30	20,668	-59.3		09	4.0
40	30	22,076	-56.4		09	5.[illegible]
30	30	23,921	-51.9		08	6.1
25	30	25,104	-50.9		08	6.2
20	30	26,565	-48.6		09	4.1
15	28	28,473	-44.4		07	1.5
10	24	31,220	-39.7		09	1.[illegible]
7	11	33,708	-34.7			

● WAKE IS., PACIFIC AREA
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	26.6	22.6	08	4.1
1000	31	139	25.2	21.3	08	4.6
950	31	588	21.5	18.7	09	5.1
900	31	1,056	18.4	14.2	10	4.8
850	31	1,545	15.4	9.[illegible]	10	4.3
800	31	2,057	13.0	5.1	09	4.1
750	31	2,598	11.0	-2.2	09	3.9
700	31	3,172	9.2	-9.4	09	3.2
650	31	3,782	6.2	-13.4	08	2.1
600	31	4,434	2.4	-16.9	09	1.6
550	31	5,131	-1.9	-20.9	03	.7
500	31	5,882	-6.5	-25.4	33	1.2
450	31	6,697	-11.8	-29.4	31	.9
400	31	7,589	-17.8	-34.[illegible]	28	3.2
350	31	8,577	-25.0	-40.[illegible]	28	3.3
300	31	9,675	-33.7	-47.6	29	4.8
250	31	10,926	-43.8		29	8.1
200	31	12,386	-55.7		29	11.9
175	31	13,225	-61.9		28	12.8
150	31	14,163	-68.2		28	12.5
125	31	15,243	-73.6		29	11.2
100	31	16,533	-77.4		29	6.9
80	29	17,813	-75.1		33	1.6
70	28	18,595	-71.6		07	2.6
60	28	19,517	-65.9		09	5.5
50	27	20,640	-61.4		09	8.8
40	26	22,035	-58.5		09	12.3
30	26	23,863	-53.9		09	16.0
25	26	25,043	-50.7		09	17.1
20	26	26,509	-47.1		09	17.1
15	25	28,427	-44.1		08	15.4
10	24	31,182	-39.6		10	14.5
7	7	33,644	-36.7			

● WALLOPS ISLAND, VA NASA
1017 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	4	15.2	12.8	31	1.[illegible]
1000	31	148	16.9	9.4	29	2.[illegible]
950	31	586	16.2	6.2	31	[illegible].1
900	31	1,044	13.5	4.3	32	[illegible].1
850	31	1,522	10.5	.2	32	4.7
800	31	2,025	7.8	-4.[illegible]	31	5.6
750	31	2,555	4.9	-8.1	31	6.[illegible]
700	31	3,114	1.7	-11.7	31	7.6
650	31	3,708	-1.4	-17.0	30	[illegible]
600	31	4,342	-4.9	-20.1	30	8.7
550	31	5,021	-8.8	-24.3	30	8.8
500	31	5,753	-13.7	-28.0	29	8.[illegible]
450	31	6,545	-19.6	-33.1	30	9.2
400	31	7,409	-25.9	-38.7	30	9.9
350	31	8,364	-33.4	-43.[illegible]	30	10.6
300	31	9,425	-41.6	-48.9	29	11.9
250	31	10,639	-50.3		30	13.0
200	31	12,067	-59.0		30	13.9
175	31	12,898	-62.0		30	13.3
150	30	13,848	-62.3		29	13.2
125	30	14,980	-60.9		29	11.8
100	30	16,366	-61.0		30	9.0
80	30	17,753	-60.6		31	6.[illegible]
70	30	18,589	-58.7		33	[illegible].7
60	30	19,561	-57.1		34	[illegible].4
50	29	20,722	-54.9		01	.9
40	29	22,156	-53.5		07	1.0
30	28	24,009	-51.9		07	2.8
25	28	25,193	-51.0		08	2.8
20	26	26,661	-48.4		09	2.6
15	26	28,570	-44.9		07	1.9
10	22	31,324	-38.8		11	.8
7	8	33,808	-33.7			

WASHINGTON DULLES INT. AP
1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	85	13.2	10.[illegible]	31	.5
1000	28	138	14.9	9.[illegible]	27	1.2
950	31	585	15.2	7.1	31	3.4
900	31	1,042	13.2	4.8	32	4.5
850	31	1,521	10.4	.6	32	4.8
800	31	2,023	7.3	-2.7	32	5.6
750	31	2,552	4.2	-6.[illegible]	32	6.3
700	31	3,110	1.2	-11.7	31	6.9
650	31	3,703	-2.3	-15.8	31	7.3
600	31	4,334	-5.8	-20.2	31	7.9
550	31	5,011	-9.8	-25.0	30	8.2
500	31	5,740	-14.8	-28.7	30	8.7
450	31	6,529	-20.2	-33.7	30	9.2
400	31	7,391	-26.4	-40.1	30	10.6
350	31	8,344	-33.7	-45.1	30	10.4
300	31	9,404	-41.9	-50.[illegible]	30	11.3
250	31	10,615	-50.6		30	12.8
200	31	12,039	-59.7		30	13.3
175	31	12,868	-62.8		31	11.8
150	31	13,817	-62.1		30	10.9
125	31	14,951	-60.6		30	10.8
100	31	16,336	-61.3		31	8.0
80	31	17,723	-60.4		31	6.1
70	31	18,598	-59.0		33	4.6
60	31	19,528	-57.6		34	2.4
50	31	20,685	-55.7		01	1.1
40	30	22,117	-53.6		08	.2
30	30	23,971	-52.7		07	2.1
25	29	25,152	-51.5		07	2.8
20	28	26,608	-49.1		07	2.7
15	25	28,506	-45.6		07	2.2
10	19	31,235	-39.6		10	2.7
7						

RAWINSONDE DATA

Average monthly values

WAYCROSS, GA
1011 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	44	16.8	15.8	05	.1
1000	31	142	19.2	16.5	16	.4
950	31	584	19.2	11.9	14	.7
900	31	1,048	17.0	7.9	1[illegible]	.8
850	31	1,533	13.5	5.8	06	1.5
800	31	2,041	10.0	3.2	05	1.0
750	31	2,575	6.6	-2.6	07	1.6
700	31	3,139	3.7	-8.6	03	1.3
650	31	3,737	.7	-13.0	32	1.6
600	31	4,376	-2.9	-17.5	30	3.0
550	31	5,060	-7.1	-20.9	30	3.6
500	31	5,797	-11.5	-26.6	3	4.5
450	31	6,596	-17.3	-31.1	29	4.9
400	31	7,468	-23.5	-37.2	29	5.1
350	31	8,434	-30.5	-43.7	29	6.3
300	30	9,505	-39.1	-51.3	29	7.6
250	30	10,729	-49.1		29	9.0
200	30	12,100	-59.1		29	12.7
175	30	12,990	-62.3		29	13.0
150	30	13,942	-62.0		29	13.4
125	30	15,070	-62.2		29	13.5
100	30	16,441	-64.2		29	11.2
80	30	17,800	-65.7		30	6.9
70	30	18,614	-64.3		32	4.1
60	29	19,565	-60.8		34	2.4
50	28	20,708	-57.4		04	2.2
40	28	22,128	-54.9		07	5.0
30	25	23,996	-51.7		09	5.[illegible]
25	23	25,172	-49.6		09	3.8
20	23	26,643	-46.9		09	2.0
15	20	28,567	-43.4		02	1.4
10	14	31,326	-38.6		09	1.2
7	9	33,763	-35.4			

WEST PALM BEACH, FL
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	7	21.8	17.7	09	2.3
1000	31	137	22.7	19.1	10	2.8
950	31	583	19.4	15.3	11	3.2
900	31	1,046	16.1	12.4	12	2.7
850	31	1,531	13.4	6.8	11	1.5
800	31	2,040	11.5	.3	16	.8
750	31	2,577	9.0	-3.7	22	1.4
700	31	3,146	5.9	-6.5	24	2.2
650	31	3,749	2.6	-11.3	25	2.6
600	31	4,392	-1.4	-15.5	25	3.3
550	31	5,080	-5.6	-20.0	26	4.2
500	31	5,821	-10.2	-23.6	27	5.7
450	31	6,624	-15.9	-30.2	27	6.9
400	31	7,502	-21.7	-35.7	28	8.5
350	31	8,474	-29.0	-43.0	27	11.3
300	31	9,555	-37.4	-49.6	27	14.2
250	31	10,788	-47.1		27	16.2
200	31	12,231	-57.2		27	19.1
175	31	13,068	-60.9		27	20.0
150	31	14,022	-62.9		27	19.1
125	31	15,141	-64.3		28	17.3
100	30	16,494	-67.0		29	11.0
80	30	17,834	-68.3		30	6.0
70	30	18,639	-66.4		33	3.2
60	30	19,584	-61.8		05	2.0
50	30	20,722	-58.3		08	5.5
40	30	22,139	-54.8		08	8.0
30	30	23,997	-50.5		09	8.3
25	28	25,192	-48.7		09	7.5
20	26	26,666	-45.4		09	5.8
15	23	28,593	-42.6		09	4.4
10	18	31,351	-37.7		08	3.2
7	10	33,828	-34.2			

WINNEMUCCA, NV
865 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,312	4.9	-2.0	23	.8
1000						
950						
900						
850	30	1,454	7.1	-1.0	25	.8
800	30	1,951	4.2	-3.6	29	1.9
750	30	2,473	.6	-5.2	26	2.7
700	30	3,023	-3.7	-7.9	24	4.4
650	30	3,604	-7.8	-11.7	23	6.5
600	29	4,221	-12.0	-17.5	23	8.2
550	29	4,882	-15.9	-25.5	23	8.9
500	29	5,594	-20.3	-29.3	24	9.9
450	29	6,367	-25.6	-34.4	24	9.0
400	29	7,210	-32.0	-40.0	24	10.3
350	29	8,141	-39.3	-42.8	24	11.5
300	28	9,169	-46.7		24	11.6
250	28	10,364	-51.5		26	12.3
200	25	11,819	-53.0		26	11.3
175	25	12,680	-52.9		25	9.3
150	25	13,676	-52.8		25	8.2
125	25	14,850	-53.8		24	6.8
100	25	16,278	-55.3		22	4.3
80	25	17,699	-56.5		19	3.0
70	25	18,544	-57.6		19	1.8
60	25	19,518	-57.5		12	1.5
50	24	20,670	-57.4		09	1.7
40	24	22,083	-56.6		08	2.5
30	22	23,926	-54.4		08	3.3
25	21	25,091	-52.6		07	3.7
20	21	26,543	-49.6		07	3.3
15	20	28,429	-46.6		06	2.4
10	16	31,185	-39.6		08	3.1
7						

WINSLOW, AZ
849 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,487	7.1	-3.9	17	1.9
1000						
950						
900						
850	9	1,505	8.7	-5.3		
800	31	1,981	10.0	-5.4	23	3.8
750	31	2,513	6.0	-7.4	22	7.0
700	31	3,074	2.4	-12.8	22	10.4
650	31	3,669	-1.4	-18.2	22	11.4
600	31	4,302	-5.4	-21.5	22	11.8
550	31	4,979	-10.0	-25.3	23	13.7
500	31	5,707	-15.0	-29.8	23	15.1
450	31	6,495	-20.7	-33.4	23	16.1
400	31	7,355	-27.2	-39.8	23	18.3
350	31	8,305	-34.9	-44.9	23	19.1
300	31	9,359	-43.1	-51.4	24	20.3
250	31	10,566	-51.2		24	23.3
200	31	11,994	-57.6		24	22.5
175	31	12,834	-58.8		24	21.8
150	31	13,803	-58.0		24	18.3
125	30	14,947	-58.2		24	14.[illegible]
100	30	16,348	-59.2		24	9.3
80	30	17,743	-60.2		21	4.3
70	30	18,575	-60.8		20	1.8
60	29	19,538	-59.5		12	1.8
50	29	20,682	-58.3		10	2.4
40	29	22,094	-55.9		07	2.0
30	27	23,930	-53.6		07	2.1
25	25	25,114	-50.8		06	1.9
20	24	26,571	-48.7		07	1.2
15	23	28,469	-45.7		03	1.2
10	22	31,196	-40.4		06	1.4
7	12	33,621	-35.8		36	.7

YAKUTAT, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	12	3.9	2.6	06	1.1
1000	29	105	5.6	2.6	10	1.0
950	31	514	3.3	.3	14	1.7
900	31	950	.2	-3.1	15	2.3
850	31	1,406	-2.8	-6.9	14	3.2
800	31	1,884	-5.5	-11.0	15	2.8
750	31	2,388	-8.1	-15.3	16	2.8
700	31	2,921	-11.3	-19.3	15	3.6
650	31	3,486	-14.5	-23.3	15	3.9
600	31	4,089	-18.0	-26.8	16	4.3
550	31	4,734	-22.0	-31.1	16	4.4
500	31	5,428	-27.0	-36.2	16	5.6
450	30	6,176	-32.2	-41.5	17	4.9
400	30	6,997	-38.1	-44.7	17	5.0
350	30	7,906	-44.5		18	5.0
300	30	8,922	-49.9		17	5.8
250	30	10,113	-49.5		18	5.4
200	29	11,583	-46.8		19	5.1
175	28	12,471	-46.8		19	4.8
150	28	13,492	-47.3		18	5.0
125	28	14,696	-48.2		18	4.6
100	28	16,161	-49.3		17	4.6
80	28	17,621	-50.2		16	4.2
70	28	18,492	-50.7		16	3.9
60	27	19,493	-50.8		15	3.3
50	27	20,680	-51.1		14	3.8
40	27	22,132	-51.1		11	4.1
30	27	24,006	-50.4		11	5.7
25	26	25,203	-49.8		10	6.3
20	23	26,668	-48.3		10	8.1
15	23	28,577	-45.1		10	8.5
10	19	31,352	-39.1		09	8.5
7	13	33,850	-33.7		09	10.2

+ YAP, CAROLINE IS.
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	14	28.4	24.2	08	3.2
1000	31	92	26.7	23.6	08	4.0
950	31	545	23.2	21.4	08	5.7
900	31	1,017	20.6	16.9	08	5.9
850	31	1,510	18.0	12.8	09	5.4
800	31	2,028	15.7	8.0	09	4.9
750	31	2,574	13.1	3.6	10	4.4
700	31	3,151	10.0	-.3	10	4.2
650	31	3,764	6.7	-4.0	10	4.2
600	31	4,418	2.8	-6.6	11	3.8
550	31	5,118	-.9	-10.6	10	2.9
500	31	5,873	-5.0	-16.1	10	3.1
450	30	6,695	-9.5	-21.5	10	2.7
400	30	7,596	-15.0	-29.9	08	2.0
350	30	8,596	-21.7	-36.0	08	.9
300	30	9,709	-30.2	-43.5	24	.9
250	29	10,978	-40.6	-53.1	23	2.3
200	29	12,457	-53.2		2	2.2
175	29	13,304	-60.0		21	1.1
150	29	14,249	-67.7		34	2.3
125	29	15,328	-74.5		02	3.6
100	29	16,606	-79.8		06	5.2
80	29	17,864	-79.5		08	6.3
70	29	18,633	-74.0		08	7.1
60	29	19,547	-67.9		08	9.8
50	29	20,657	-63.2		09	15.2
40	29	22,040	-59.3		07	21.6
30	28	23,865	-53.7		07	29.4
25	27	25,049	-49.8		09	29.8
20	26	26,525	-44.5		07	29.2
15	26	28,469	-41.2		09	22.5
10	23	31,256	-35.5		09	12.7
7	15	33,768	-30.6			

YUCCA FLAT, NV
876 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,198	7.8	.3	23	1.1
1000						
950						
900						
850	31	1,451	10.5	-2.9	23	2.7
800	31	1,953	6.9	-4.9	22	4.7
750	31	2,480	3.2	-6.8	21	4.7
700	31	3,036	-.7	-10.0	21	4.1
650	31	3,624	-4.7	-13.4	21	5.1
600	31	4,249	-8.9	-18.8	22	6.7
550	31	4,917	-13.2	-24.0	23	9.1
500	31	5,638	-17.9	-28.7	24	10.9
450	31	6,418	-23.5	-34.[illegible]	24	12.6
400	31	7,269	-29.9	-39.8	24	14.1
350	30	8,206	-37.1	-45.4	24	15.3
300	30	9,251	-44.8		25	17.3
250	30	10,453	-51.4		25	18.0
200	29	11,887	-55.0		25	18.0
175	29	12,740	-55.3		25	15.3
150	28	13,728	-54.8		25	12.9
125	27	14,889	-56.3		24	10.0
100	26	16,295	-57.1		23	7.4
80	26	17,704	-58.1		22	3.7
70	26	18,544	-58.9		19	1.7
60	24	19,512	-59.0		14	.7
50	24	20,658	-58.3		10	1.8
40	22	22,069	-57.0		07	2.0
30	21	23,906	-54.3		08	1.6
25	19	25,079	-52.3		07	1.8
20	16	26,934	-49.1		07	2.1
15	12	28,435	-45.4		04	1.8
10	7	31,131	-40.4			
7						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

MAY 1977

ALBUQUERQUE, NM

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	----	----	----	----	----	----	----	.86	----
2-----	----	----	----	1.14	1.44	1.19	1.00	.85	.76
4-----	.91	1.00	1.13	1.28	1.46	(1.01)	(.69)	(.60)	(.48)
5-----	----	----	----	----	1.40	1.13	.90	----	----
6-----	.86	.98	1.09	1.24	1.47	1.20	.98	.84	.72
7-----	.98	1.07	1.19	1.31	1.46	1.26	1.06	.94	.80
8-----	----	----	1.15	----	1.47	1.25	----	.96	----
9-----	.94	1.04	1.13	1.28	1.47	1.27	1.13	.99	.88
10----	.86	.98	1.08	1.23	1.50	1.34	1.20	1.07	.96
11----	.95	1.07	1.19	(1.34)	----	----	----	----	----
13----	----	----	----	(1.19)	----	----	----	----	----
14----	----	----	1.10	1.26	----	----	----	----	----
15----	.82	.94	1.04	----	----	----	----	----	----
16----	----	----	1.07	1.15	1.31	----	.88	.77	.64
17----	.80	.92	1.05	1.20	1.40	(.85)	(.75)	(.44)	(.33)
18----	.86	.96	1.09	1.25	1.41	----	1.05	.92	.80
19----	----	----	----	----	----	1.19	----	----	----
20----	----	----	----	----	----	1.24	(.84)	(.72)	(.54)
21----	.90	.98	1.12	1.27	1.44	(.88)	(.68)	(.52)	----
22----	.71	.81	.97	1.18	1.40	(1.16)	----	----	----
23----	.84	.96	1.08	1.23	1.39	1.15	.92	(.76)	----
24----	(.80)	----	(1.06)	----	----	----	----	----	----
27----	.82	.92	1.06	1.20	1.42	1.22	1.08	.96	.87
28----	.86	.94	1.06	1.21	1.40	1.25	1.10	.98	.89
29----	.91	1.00	1.12	1.26	1.42	1.22	1.07	.93	.85
30----	.89	.97	1.08	1.24	1.44	1.24	1.08	.96	.87
31----	.75	.84	.98	1.12	----	----	----	----	----
Averages	.86	[illegible]	1.09	1.23	1.43	1.22	1.03	.93	.82

MADISON, WI

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
2-----	----	----	----	S .98	S 1.25	S 1.06	----	----	----
5-----	----	----	----	----	S 1.22	S .99	M .83	M .73	M .63
7-----	S .65	S .72	S .93	S 1.13	S 1.38	----	----	----	----
8-----	S .80	S .90	S 1.02	S 1.17	S 1.33	S 1.04	S .88	S .72	S .65
9-----	S .85	S .95	S 1.06	S 1.21	S 1.38	S 1.13	S 1.01	S .88	S .78
10----	----	----	----	----	S 1.29	----	----	----	----
11----	----	----	----	S 1.06	S 1.29	M 1.01	M .82	M .71	M .60
12----	M .60	M .72	M .85	S 1.03	S 1.26	M .97	M .78	----	----
13----	S .59	S .70	S .83	M .99	M 1.22	M .97	M .72	I .52	I .40
18----	----	----	----	----	----	----	M .60	M .54	M .45
19----	----	----	----	----	----	----	M .55	M .42	M .35
24----	H .44	H .52	H .65	----	----	----	----	----	----
25----	S .51	S .61	S .76	S .95	M 1.13	----	----	----	----
26----	----	M .51	M .63	M .83	M 1.06	M .92	M .78	M .65	M .56
27----	M .58	M .70	M .83	S 1.00	S 1.18	S .95	S .81	S .70	S .95
29----	----	I .36	----	----	----	----	----	----	----
30----	I .40	I .48	I .53	I .70	H .99	I .71	I .46	I .17	I .14
Averages	.60	.65	.81	1.00	1.23	.98	.75	.60	.55

OMAHA, NE

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78

NO DATA RECEIVED

BLUE HILL OBSERVATORY, MA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HA

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
2-----	----	----	1.33	1.45	1.59	----	----	----	----
3-----	----	----	1.40	1.50	1.60	----	1.35	1.17	1.08
4-----	----	----	1.32	1.47	1.59	----	----	----	----
6-----	----	----	1.34	1.44	----	1.40	1.28	1.18	1.08
7-----	----	----	1.34	1.46	----	----	----	----	----
12----	----	----	1.32	1.43	1.59	----	----	----	----
13----	----	1.25	1.35	1.47	1.57	----	----	----	----
16----	----	----	1.37	1.48	1.60	1.46	1.34	1.26	1.19
17----	----	----	1.38	1.49	----	----	----	----	----
21----	----	----	1.38	1.47	1.60	1.46	1.35	1.26	1.16
23----	----	----	1.38	1.49	----	----	----	----	----
24----	----	----	1.35	1.51	1.64	1.48	1.39	1.29	1.20
25----	----	----	1.38	1.49	1.63	1.49	1.38	1.28	1.20
26----	----	----	----	----	1.63	1.48	1.36	1.29	1.21
31----	----	----	----	1.40	1.60	1.47	1.36	1.28	1.20
Averages	----	1.25	1.36	1.47	1.60	1.46	1.35	1.25	1.17

TUCSON, AZ

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	.79	.90	1.02	1.19	1.35	1.13	.97	.85	.74
2-----	.82	.94	1.07	----	----	----	----	----	----
3-----	----	----	----	----	----	----	----	----	.85
4-----	.85	.95	1.08	1.23	----	- --	1.06	.94	.85
5-----	.82	.92	1.03	1.17	1.38	1.20	1.02	.89	.79
6-----	.89	.99	1.12	1.24	1.42	1.23	1.06	.92	.82
7-----	.82	.92	1.05	1.24	1.44	1.25	1.09	.94	.85
8-----	.85	.95	1.08	1.23	1.40	1.18	1.01	.90	.79
9-----	.88	.98	1.10	1.26	1.42	1.22	1.08	.96	.87
10----	.91	1.00	1.11	1.26	1.45	1.28	1.07	.92	.80
12----	----	----	----	----	1.41	----	----	----	----
14----	.75	.88	1.01	1.19	1.37	1.16	.99	.88	.78
15----	----	----	----	----	1.42	1.24	1.08	.96	.86
16----	.60	.72	.88	1.03	1.36	1.08	.92	.77	.69
17----	.80	.90	1.04	1.24	1.40	1.17	.98	----	----
18----	.76	.87	1.01	1.19	1.42	1.22	1.07	.94	.84
19----	----	----	1.02	1.18	1.39	----	1.02	.90	.76
20----	.75	.86	1.00	1.17	1.45	1.20	1.03	.90	.81
21----	.83	.94	1.06	1.23	1.41	1.19	1.00	.88	.77
22----	.77	.88	1.01	1.18	1.41	1.16	.97	.86	.74
23----	.83	.94	1.06	1.24	----	----	----	----	----
26----	----	----	.95	1.16	1.35	1.19	1.07	.95	.86
27----	----	----	----	----	1.38	1.19	1.02	.90	.81
28----	.82	.91	1.03	1.20	1.38	1.21	1.05	.93	.84
29----	.83	.93	1.05	1.21	1.37	1.20	1.04	.94	.84
30----	.87	.96	1.08	1.23	1.40	1.14	.97	.87	.79
31----	.69	.80	.94	1.10	1.31	1.01	.83	.70	.59
Averages	.81	.91	1.03	1.20	1.40	1.18	1.02	.90	.80

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	114	124	164	110	198	110	118	148	188	179	99	210	193	217	169	101	137	82	209	143	231	145	135	174	128	170	196	226	268	205	201	164

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3

TOTAL OZONE DATA FORMERLY INCLUDED HERE IS BEING
PUBLISHED IN OZONE DATA FOR THE WORLD BY THE:
WORLD OZONE DATA CENTER
ATMOSPHERIC ENVIRONMENT SERVICE
4905 DUFFERIN STREET
DOWNSVIEW, ONTARIO, CANADA M3H 5T4

REFFRENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+ And also on an earlier date or dates.
D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
+ And also on an earlier date or dates.
U Indicates Urban site.
R Indicates Rural site.
Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
$°F. = \frac{9}{5} \times °C + 32$
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

STORM SUMMARY:

Includes crop damage.
C Crop damage.
* No occurrence of storms or unusual weather phenomena reported.
@ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡ No Storm Data Report received for this State.
. . Report Incomplete.
† Storm damages are placed in categories varying from 1 to 9 as follows:
  1 Less than $50
  2 $50 to $500
  3 $500 to $5,000
  4 $5,000 to $50,000
  5 $50,000 to $500,000
  6 $500,000 to $5 Million
  7 $5 Million to $50 Million
  8 $50 Million to $500 Million
  9 $500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.
NA Not available.

FLOOD STAGE DATA:

# Highest Stage Observed
1/ Continued at end of month
___ Highest Stage of Record
E Estimated
P Provisional (Flood Stage)
U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+ Observations for these stations are scheduled at 0000 G.C.T.
† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

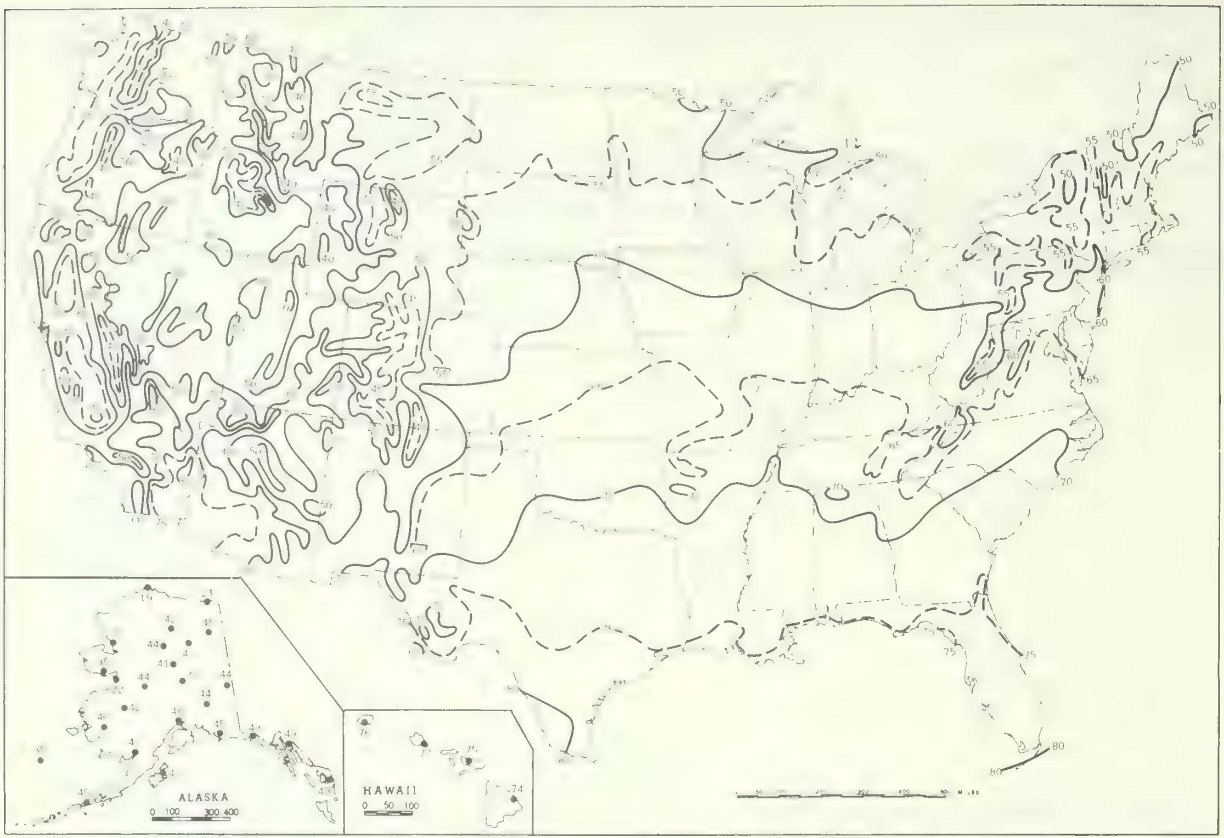
( )	Clouds Present
•	Values corresponding to true solar noon
BD	Blowing Dust
BN	Blowing Sand
D	Dust
DI	Intense Dust
DM	Moderate Dust
DS	Slight Dust
F	Fog
GF	Ground Fog
H	Haze
HI	Intense Haze
HM	Moderate Haze
HS	Slight Haze
I	Intense Haze-indeterminable
K	Smoke
KI	Intense Smoke
KM	Moderate Smoke
KS	Slight Smoke
M	Moderate Haze-indeterminable
N	Sand
S	Slight Haze-indeterminable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), May.



B. Temperature Departure from 30 - Year Mean (F 1941-70), May 1977

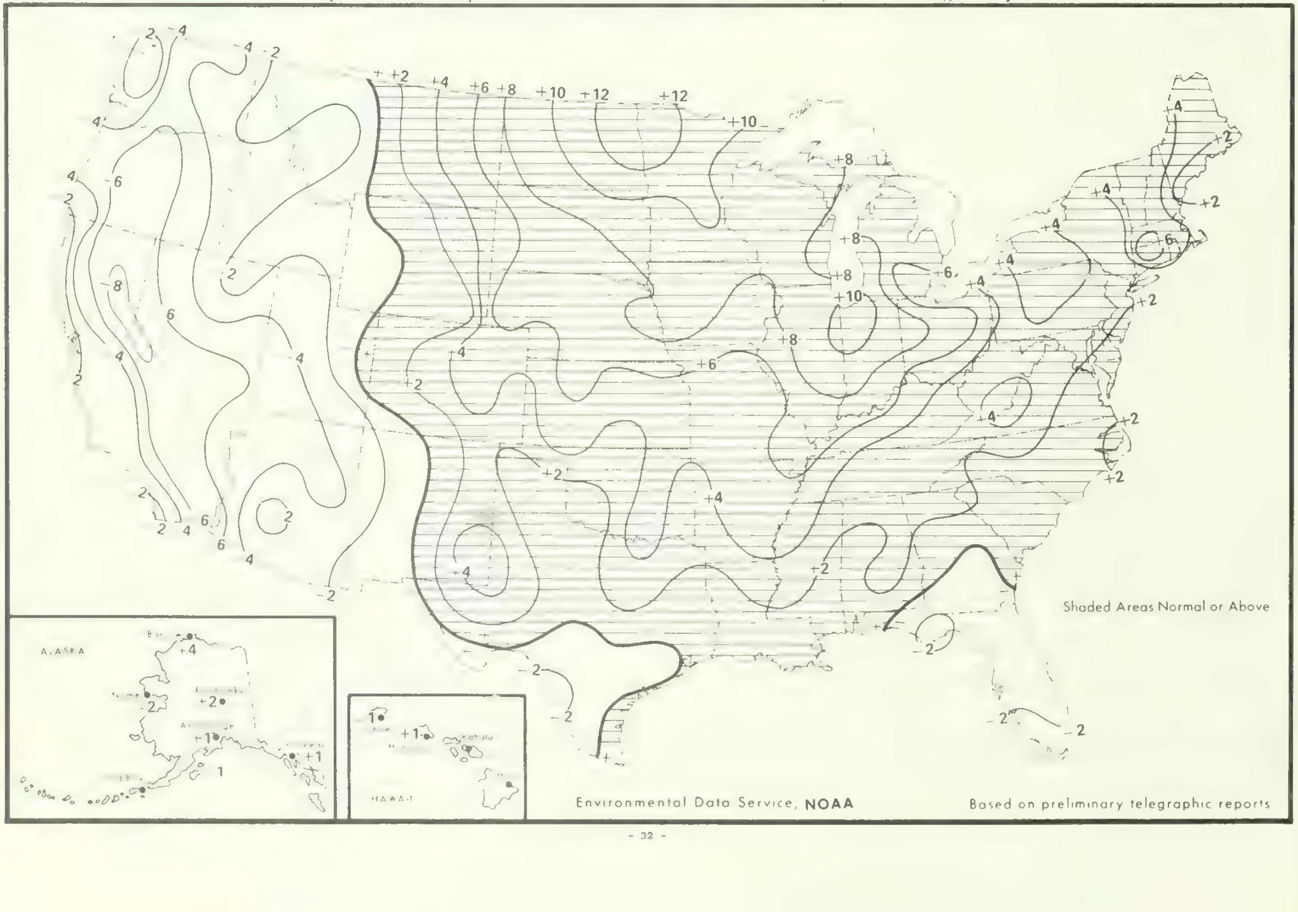
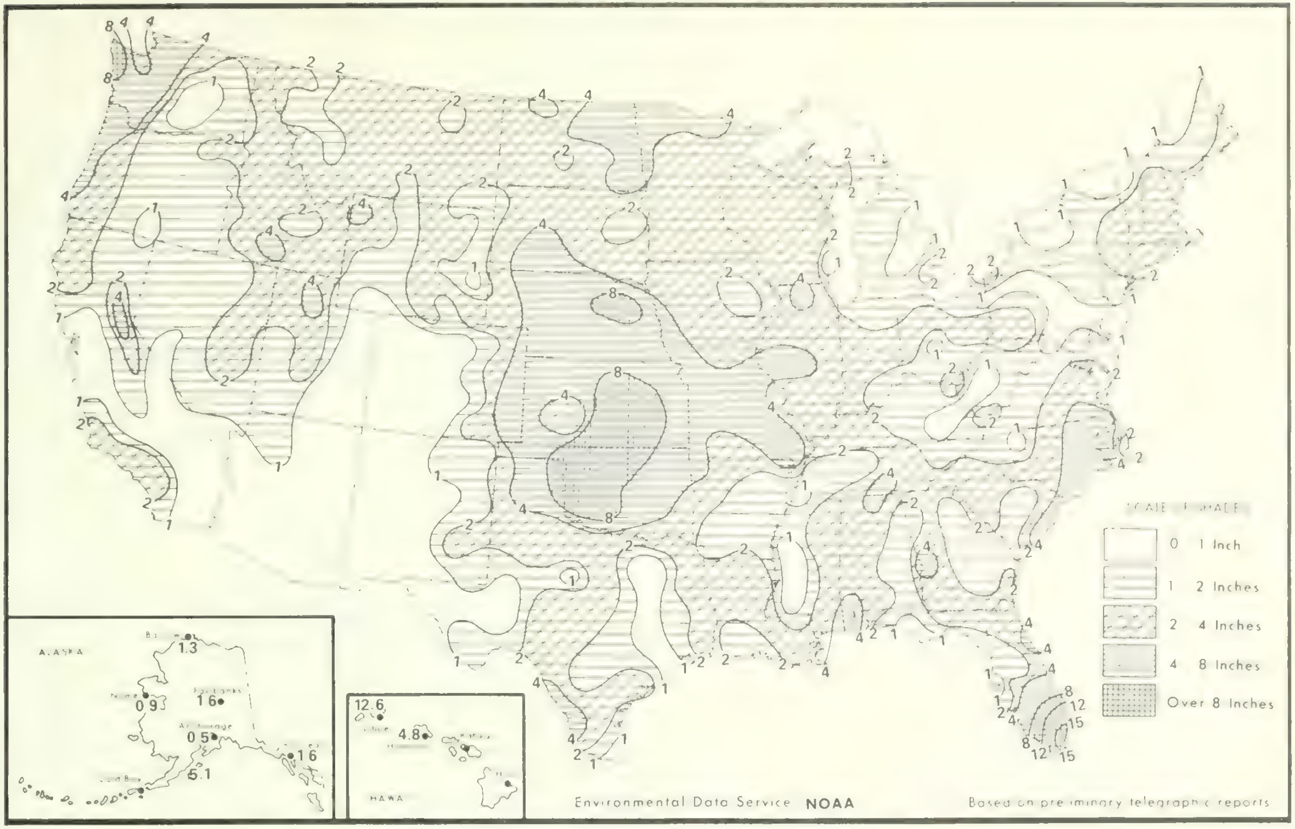


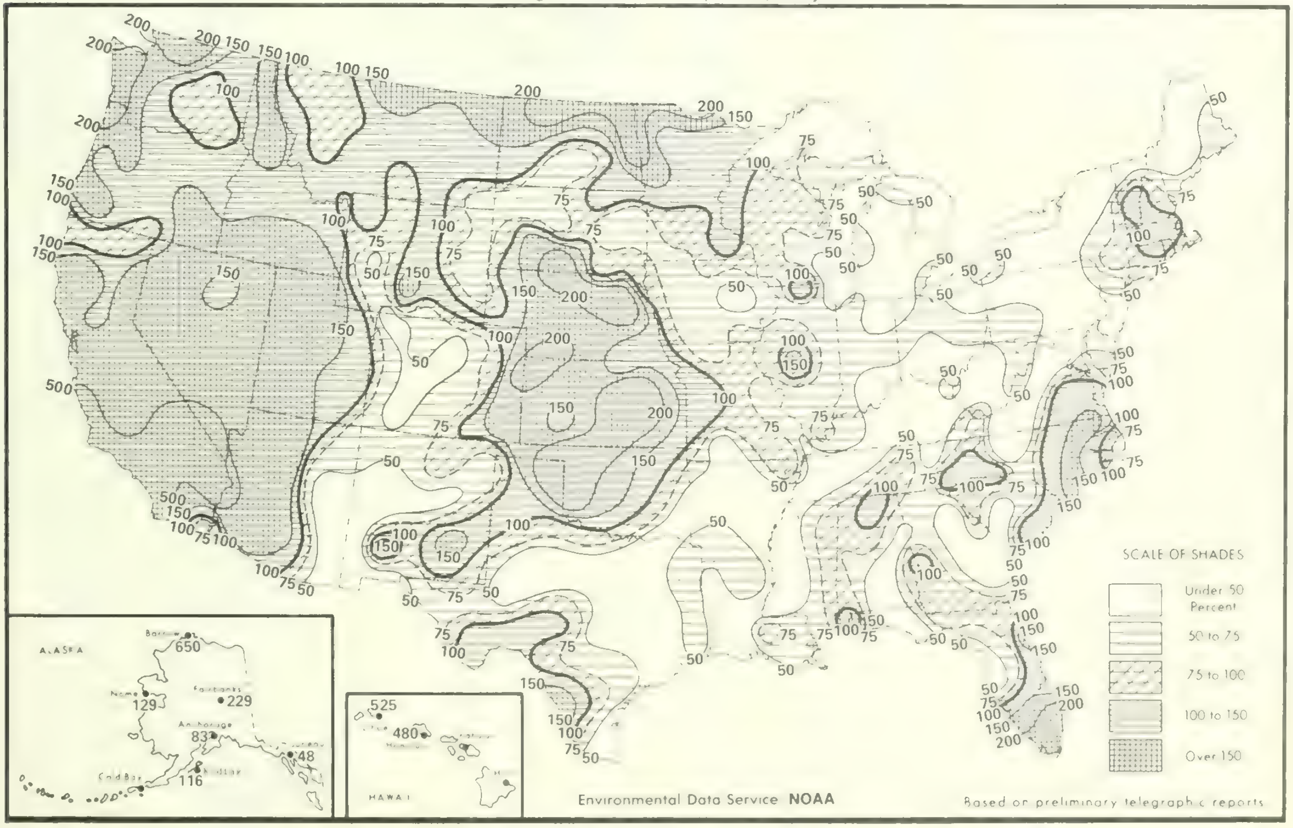
Chart II. A. Total Precipitation (Inches), May 1977



Environmental Data Service NOAA

Based on preliminary telegraphic reports

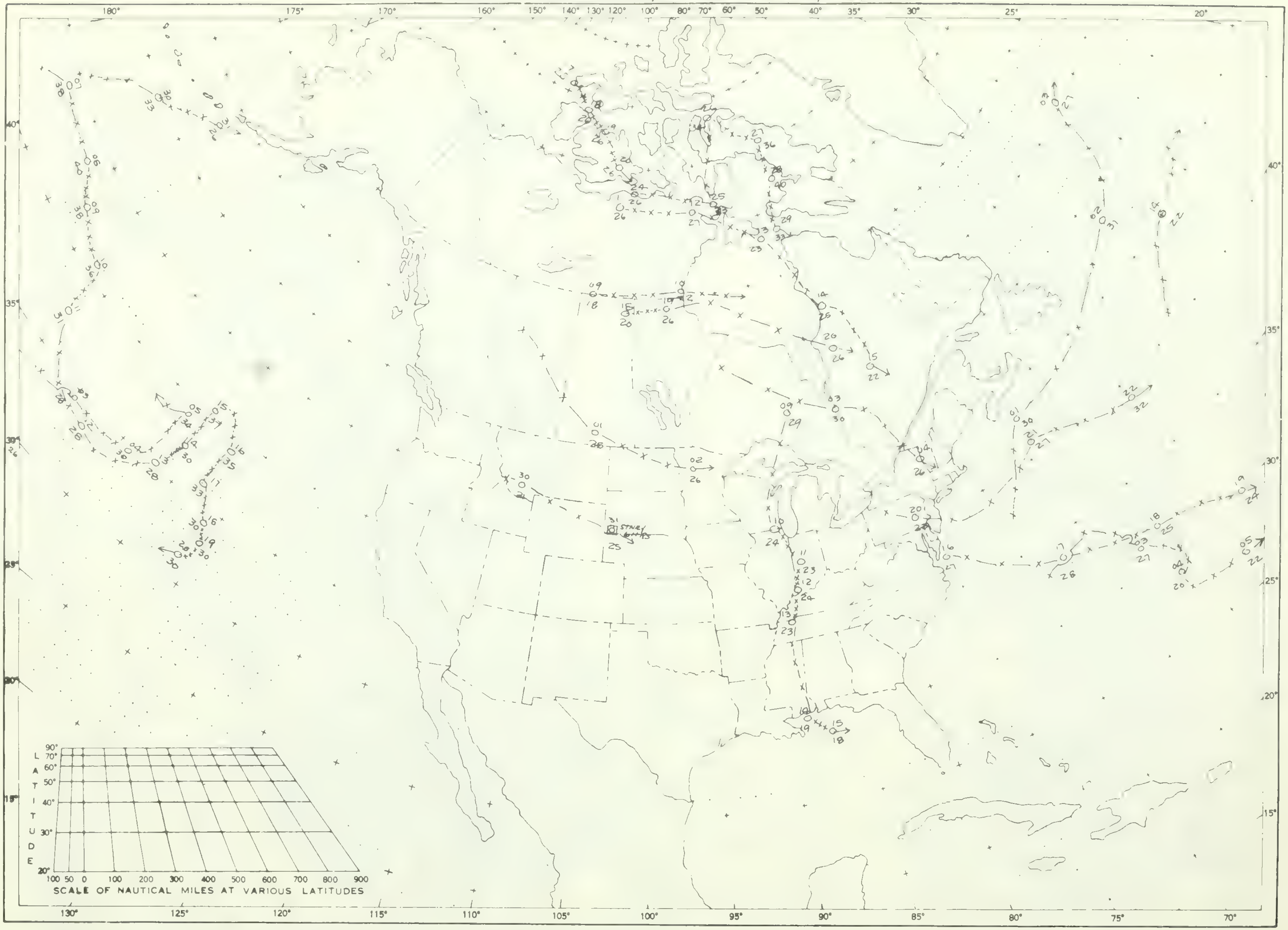
B. Percentage of Normal Precipitation, May 1977



Environmental Data Service NOAA

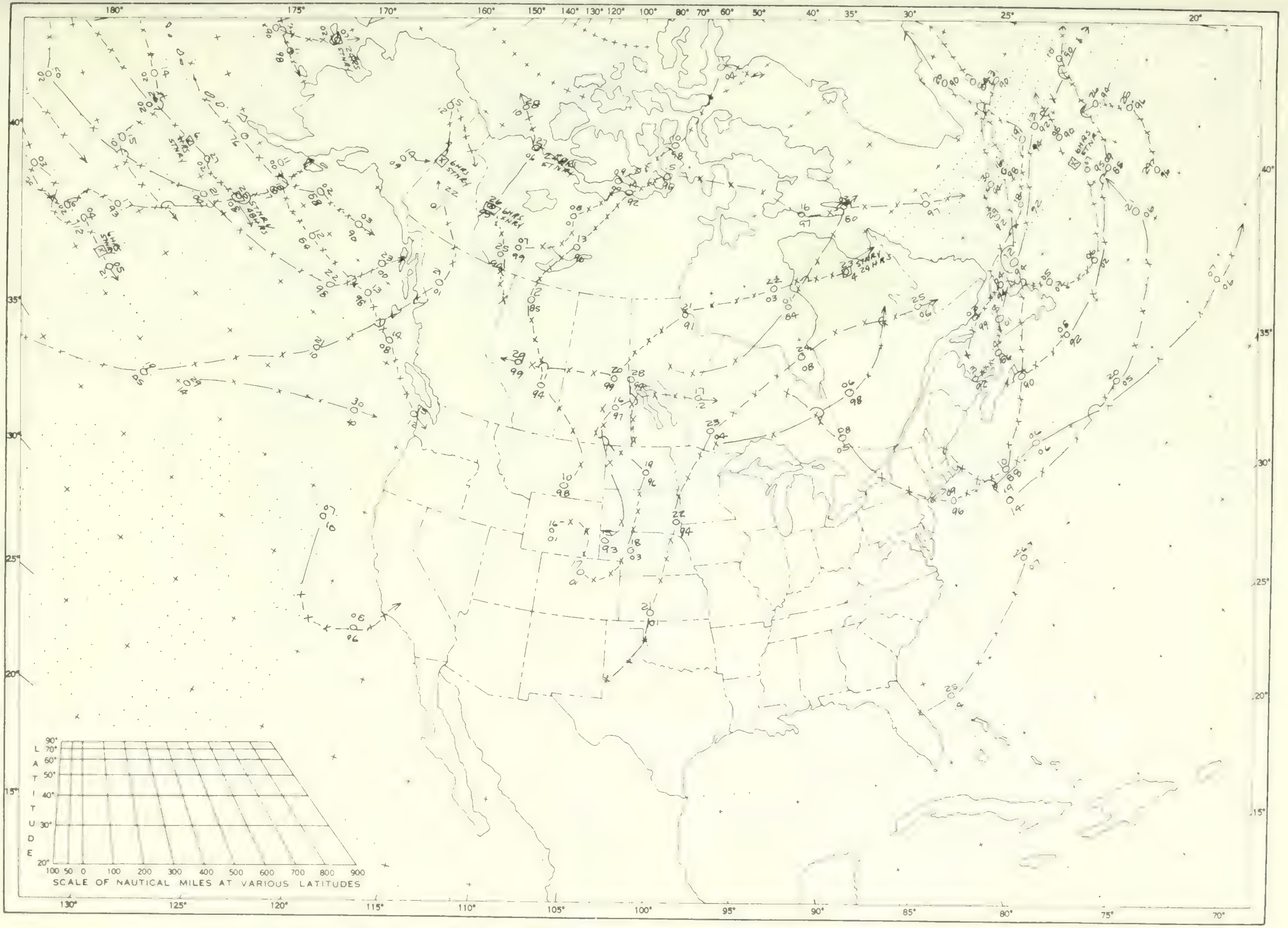
Based on preliminary telegraphic reports

Chart III. Tracks of Centers of Anticyclones at Sea Level, May 1976



Circle indicates position of center at 7:00 a m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, May 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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JUNE 1977 VOLUME 28 NUMBER 6

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

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Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JUNE 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Dr. Richard E. Felch, Climatologist

HIGHLIGHTS: June produced above normal rain from eastern Kansas through Missouri and the Ohio and Tennessee River Valleys to the central Appalachians. Much of Iowa and Wisconsin and a strip across the center of the Corn Belt had less than normal rainfall. Most of the Gulf Coast States had below normal moisture--some areas totaled only a third of normal. The western United States was seasonally dry although many areas recorded above normal amounts of rain.

Temperatures were cooler than normal in the Northeast, warmer in the West, and near normal elsewhere.

During the early days of June, much-needed rain fell in Minnesota and Wisconsin. The timely moisture helped germinate late-sown corn and soybeans and promoted growth of the newly emerged plants. Abundant rain continued in the central Great Plains, but abated in the southern portion allowing wheat harvest to progress. Heavy rain saturated southern Florida but to the north, in Alabama and Georgia, only a few showers fell on the dry corn and pastures.

Temperatures were warm in much of the Nation for early June; only the Northeast was near or slightly below normal.

June's second week brought rain to thirsty crops in the major corn and wheat areas. Showers and thunderstorms supplied an inch or more of water from central Illinois eastward to the Coast and into New England. Hail damaged some crops, but most of the areas welcomed the late spring rains. Most of the dry western States, from the Plateau in Nevada through the northern Rockies, had significant showers, which were of some benefit to the dry rangelands. Light showers fell in the Southeast, however, measurements were still short.

Cool weather invaded the East in the second week and pushed as far south as Georgia. Portions of Pennsylvania, Ohio, and West Virginia averaged 12° below normal for the week.

In the week of mid-June, the pattern of showers and thunderstorms that had brought plentiful moisture to the central and western Plains moved a little eastward and spread its bounty from eastern Texas and Louisiana through Minnesota. It was not all bounty, though, as floods occurred in eastern Texas where some areas recorded more than 5 inches; nor was it bounty when the heavy rain and hail damaged some fields from Texas to Minnesota. Excluded from the pattern of inch-or-more rains were the dry areas of eastern and northern Missouri and southern Iowa. The Southeast, again expecting nearly an inch of rain, had to be satisfied with half that amount. Temperatures were generally warm in most areas. averaging 2 to 3° above normal in the East and 6 to 9° warmer than normal in much of the West.

The last full week of June brought a frontal system from the west which spread heavy rain from the Plains through the Ohio Valley to the Appalachians. Heavy rain inundated an area from southern Kansas through Missouri to the St. Louis area. Some points measured 9 or more inches. Tornadoes were reported from the Dakotas to Florida; damage to property and crops was reported in many areas. The driest portions of the South and Southeast had some severe weather but little rain, although northern Florida fared quite well.

The last few days of June provided additional rain from the western Corn Belt to the eastern Ohio Valley.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JUNE 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	103	13+	Valley Head	39	8	Kinston	8.43	Dauphin Island 2	.03
Alaska	Haines	85	15	Franklin Bluffs	21	3	Ketchikan	11.35	Port Clarence	T
Arizona	Willow Beach	126	29	Fort Valley	22	18	Hawley Lake	1.95	33 Stations	.00
Arkansas	2 Stations	104	12+	3 Stations	45	8	Sparkman	9.03	Batesville Livestock	.81
California	2 Stations	120	30	White Mountain 2	21	11+	Termo	3.76	160 Stations	.00
Colorado	La Junta FAA AP	105	[illegible]	Climax	18	25	Sterling	4.22	Placerville	T
Connecticut	Hartford WSO AP	[illegible]	28	3 Stations	35	9	Coventry	6.32	Norwich Public Util. Plt.	2.65
Delaware	2 Stations	[illegible]	[illegible]	2 Stations	42	8+	Middletown 1 WSW	7.01	Georgetown 5 SW	2.28
Florida	Bartow	103	12	Smith Creek	48	8	Hialeah	15.63	Apalachicola WSO AP	.30
Georgia	Waycross 4 NE	105	17	2 Stations	37	8	Valdosta 3 E	8.61	Rome WSO AP	.74
Hawaii	Puukohola Heiau 98.1, HA	95	20+	Mauna Loa Slope Obs., HA	31	27	Mount Waialeale 1047. Kauai	23.35	14 Stations	.00
Idaho	Brownlee Dam	106	7	Ketchum Ranger Station	21	15	Idaho City	2.66	Shoshone 1 WNW	.03
Illinois	2 Stations	101	11	Mount Carroll	35	9	Fairfield Radio WFIW	8.82	Rantoul	.73
Indiana	2 Stations	99	5+	Angola	33	3	English	8.20	Oaklandon Geist Reservoir	1.13
Iowa	2 Stations	103	6+	Elkader 5 SSW	36	9	Davenport Lock and Dam 15	5.90	Centerville 4 SSW	.57
Kansas	Jetmore	106	11	Syracuse 2 W	46	7	Harveyville 3 N	15.48	Meade	.05
Kentucky	2 Stations	100	12+	Blaine	34	10	Somerset 2 NE	11.09	Elkton 2 S	2.20
Louisiana	Jonesville Locks	103	1	5 Stations	18	8	Hackberry 8 SSW	7.72	Quarantine	.12
Maine	Vanceboro 2	93	28	3 Stations	35	17+	Vanceboro 2	11.62	Portland WSO AP	3.38
Maryland	2 Stations	95	29+	Oakland 1 SE	31	8	Aberdeen Phillips Field	6.32	Laurel 3 W	1.72
Massachusetts	2 Stations	90	28+	Chester 2	30	9	West Falmouth	9.55	Stockbridge	2.42
Michigan	Holland	95	28	2 Stations	24	9	Three Rivers	6.72	Cadillac	.65
Minnesota	Fairmont	99	1	Tower 3 S	28	2	Elgin	6.49	Milaca 2 N	1.37
Mississippi	Belzoni	105	7	2 Stations	43	8	Sarah	6.92	Pascagoula 2 ENE	.15
Missouri	4 Stations	101	12+	Berryman 6 NW	40	7	Carthage	13.08	Gregory Landing	1.20
Montana	Powderville 8 NNE	100	25	3 Stations	28	30	Knobs	4.79	Libby 32 SSE	.19
Nebraska	Medicine Creek Dam	106	28	Agate 3 E	39	1	Nelson	6.83	Atlanta 2 WNW	.55
Nevada	Sunrise Manr Las Vegas	116	30+	Spring Valley State Park	30	17+	Topaz Lake	3.40	Lathrop Wells 16 SSE	.00
New Hampshire	Concord WSO AP	90	28	Mount Washington	25	3	Mount Washington	11.12	Surry Mountain Lake	3.29
New Jersey	2 Stations	91	30+	Belle Plain	38	4	Long Valley	7.84	Atlantic City WSO AP	1.53
New Mexico	2 Stations	110	17	Luna Ranger Station	25	16+	Ocate 1 N	4.20	4 Stations	.00
New York	4 Stations	90	28+	Old Forge	24	9	Gloversville	7.10	Macedon	1.29
North Carolina	Wilmington 7 N	100	29	Banner Elk	29	10	Idlewild	9.56	Raleigh 4 SW	.62
North Dakota	Drake 9 NE	98	25	Wishek	37	6	Linton	7.09	Sheyenne	1.00
Ohio	Toledo Blade	95	18	2 Stations	31	8+	Leesville Lake	8.93	Piqua	.68
Oklahoma	3 Stations	105	28+	2 Stations	46	8	Tulsa WSO AP	6.69	Eva 4 ESE	.25
Oregon	Spray	108	28	Fremont	20	2	Round Grove	3.22	Rome 2 NW	T
Pennsylvania	Marcus Hook	93	29+	Clermont 4 NW	26	8+	Lewis Run	8.79	Buffalo Mills	1.78
Puerto Rico	Benavente-Hormigueros	97	21	Adjuntas Substation	57	10	Rio Grande El Verde	13.65	2 Stations	.00
Rhode Island	Providence WSO AP	86	28+	Kingston	40	9	Newport	5.74	Woonsocket	3.57
South Carolina	Holly Hill	103	12	Caesars Head	40	7	Rock Hill 5 NE	6.80	Hilton Head	.84
South Dakota	3 Stations	102	26+	Custer	38	19+	Watertown FAA AP	8.30	Redowl	.87
Tennessee	Lebanon	102	13	2 Stations	35	10+	Gatlinburg 2 SW	10.53	Samburg Wildlife Refuge	2.03
Texas	Pecos	114	18	Center	47	8	Victoria WSO AP	12.21	Decatur	T
Utah	2 Stations	106	27+	Bryce Canyon N.P. 1 S	29	11	Midlake	1.85	12 Stations	.00
Vermont	Burlington WSO AP	90	28	Mount Mansfield	28	3	Mount Mansfield	9.34	Burlington WSO AP	2.06
Virginia	3 Stations	97	28	Monterey	28	8	Burkes Garden	7.86	Walkerton 2 NW	.64
Virgin Islands	Frenchmans Bay	94	30	3 Stations	70	13+	Cruz Bay	2.12	Frenchmans Bay	.30
Washington	Smyrna	101	8	Rainier Paradise R.S.	25	2	Cougar 6 E	3.50	Mc Nary Dam	.15
West Virginia	Moorefield 2 SSE	93	30	Canaan Valley	24	4	Ripley	7.41	Wardensville R M Farm	2.10
Wisconsin	Gordon	97	26	Newald 4 N	26	9	Gurney	6.93	Shawano 2 SSW	1.50
Wyoming	2 Stations	100	27+	Tower Falls	23	2	Torrington Exp. Farm	4.66	Bitter Creek 4 NE	.00

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1977

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower			Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	993.9	1016.0	33.4	19.6	26.6	1.3	37.2	13+	8.3	8	22	0	17.8	63	24	-77	11	6	12	0	0	1.5	30	17.9	W	13	12	10	8	4.9	70
HUNTSVILLE	190	993.2	1015.8	31.4	18.7	25.1	0.2	36.1	6	8.9	8	14	0	17.8	68	61	-40	32	9	8	0	0	1.0	28	16.5	23	17	14	9	7	4.5	
MOBILE	64	1008.8	1016.6	33.7	22.8	28.3	1.4	36.1	24	15.6	8	26	0	21.1	72	32	-123	17	6	8	0	0	1.5	22	9.4	18	16	13	15	2	4.0	
MONTGOMERY	59	1009.1	1016.2	35.0	21.2	28.1	2.1	38.3	12	13.3	9+	28	0	17.8	60	46	-56	31	8	9	0	0	1.3	27	17.0	N	6	12	14	4	4.2	79
ALASKA												B																				
ANCHORAGE	35	1008.8	1013.6	18.7	9.9	14.3	1.8	21.7	28	3.9	8	6	0	7.8	66	12	-15	10	5	0	0	0	2.0	20	9.4	15	4+	3	11	16	7.3	53
ANNETTE	34			14.4	9.2	11.8	-0.7	20.0	13	4.4	1	0	0			164	36	28	19		0	0			10.3	15	27+	2	5	23	8.5	
BARROW	9	1016.3	1016.9	3.0	-0.7	1.2	0.6	6.1	13+	-3.3	1	0	25	0.0	93	5	-4	3	4	0	T	T	2.6	5	9.8	10	8	2	8	20	8.0	
BARTER ISLAND	12	1013.2	1015.0	3.3	-0.5	1.4	0.2	8.9	13	-2.8	3	0	24	0.6	94	14	1	5	6	0	30	102	0.9	33	13.9	27	23+	1	9	20	8.3	
BETHEL	34	1007.8	1013.5	16.2	6.7	11.4	0.6	24.4	14	-1.1	3	8	1	6.7	74	56	19	13	11	3	0	0	1.4	27	9.8	31	30+	4	6	20	7.2	
BETTLES	196	987.5	1011.5	19.9	9.2	14.6	1.1	23.9	18+	4.4	29	12	0	7.2	64	33	2	13	13	0	0	0	1.2	35								
BIG DELTA	386			19.3	10.3	14.8	0.9	23.9	10	6.7	29	6	0			103	47	19	12		0	0										
COLD BAY	29	1009.5	1013.2	12.3	7.2	9.8	2.3	15.6	30	3.3	1	0	0	6.1	79	29	-16	6	16	0	0	0	0.6	20	16.5	13	14	0	4	26	9.5	
FAIRBANKS	133	994.2	1011.1	20.4	10.2	15.3	0.3	25.6	11	5.6	1	15	0	7.2	60	76	40	20	12	2	0	0	0.9	28	12.5	24	22	2	11	17	7.2	
GULKANA	479			17.6	5.6	11.6	-0.7	21.1	24+	-0.6	19	5	1			53	19	11	10		0	0										
HOMER	19	1010.8	1013.6	15.1	6.2	10.7		21.7	30	3.3	3+	1	0	7.2	78	24	-3	10	9	0	0	0	1.5	24	9.4	27	29+	6	5	19	7.2	
JUNEAU	4	1014.9	1015.5	16.4	8.2	12.3	0.5	22.2	14	2.2	4	1	0	8.9	81	88	14	37	18	0	0	0	1.6	11	10.3	12	5	2	1	27	9.0	31
KING SALMON	15	1010.5	1012.6	14.7	5.8	10.3	-0.1	20.6	30	2.2	5+	0	0	6.1	78	25	-11	9	14	0	0	0	2.5	18	13.4	15	7	1	4	25	8.9	
KODIAK	4	1004.8	1014.0	12.9	6.1	9.5	-0.3	21.1	30	2.2	7	1	0	7.2	87	104	-1	55	17	0	0	0	1.8	8	11.6	7	15	5	4	21	7.7	
KOTZEBUE	3	1012.9	1013.2	9.9	3.2	6.6	0.2	17.2	8	-2.8	3+	0	3	3.9	84	1	-13	1	1	0	0	0	4.3	28	17.9	29	30	6	16	8	5.6	
MC GRATH	105	999.7	1012.3	20.1	7.7	13.9	0.7	25.6	14	1.7	5	17	0	3.9	53	15	-28	6	10	1	0	0	1.0	30	8.9	29	4	4	10	16	6.6	
NOME	4	1012.5	1013.3	11.6	3.0	7.3	-0.2	23.9	27	-3.9	3	4	5	2.2	72	16	-8	5	7	0	41	T	1.1	25	11.6	11	8	11	7	12	5.5	55
ST. PAUL ISLAND	7	1013.2	1014.2	8.9	3.6	6.3	1.3	13.9	16	-1.1	25+	0	2	3.9	85	9	-24	3	8	0	0	0	1.7	7	14.3	5	15	1	1	28	9.0	
TALKEETNA	105	1000.3		19.2	7.7	13.4	0.7	23.3	3	3.9	1	13	0			59	4	19	14	5	0	0	0.8	22	7.6	19	4					
UNALAKLEET	5			13.3	4.9	9.1		18.3	26	-2.8	3	0	4			14		4	9		T	T			13.0	13	7	6	5	19	7.0	
VALDEZ	11	1014.6	1015.5	14.4	7.1	10.7	0.1	21.1	30	3.3	8	1	0	6.7	79	46	-23	18	12	0	0	0	1.3	23	8.0	26	2	1	6	23	8.6	
YAKUTAT	9	1014.2	1015.4	14.3	6.9	10.6	0.8	19.4	30	1.1	4	0	0	8.3	85	109	-35	23	19	0	0	0	0.1	10	7.2	14	20+	1	5	24	8.5	
ARIZONA																																
FLAGSTAFF	2135	790.0	1014.0	27.7	5.8	16.8	2.2	32.2	29	0.6	11	1	0	-1.1	34	23	9	7	7	10	0	0	1.8	22	11.6	SW	19	8	13	9	5.2	70
PHOENIX	339	970.5	1008.0	40.8	25.2	33.0	3.8	45.6	29	21.1	12	30	0	3.9	17	3	-1	3	1	3	0	0	0.4	20	28.6V	SW	8	17	7	6	3.6	91
TUCSON	788	923.5	1008.6	37.4	21.1	29.3	1.4	42.2	29	17.2	13+	29	0	3.9	21	2	-4	2	1	3	0	0	1.0	19	14.8	SW	3	14	11	5	3.8	92
WINSLOW	1492	852.0	1012.1	33.9	12.5	23.2	1.1	38.9	28	7.8	13+	22	0	1.1	29	6	-1	4	4	12	0	0	2.5	19	15.6	24	29+	8	10	12	5.5	
YUMA	59	1000.7	1007.8	40.2	23.2	31.7	1.8	45.0	29	18.9	15	30	0	6.1	22	1	1	1	1	1	0	0	2.2	21	11.6	S	30+	22	8	0	2.0	96
ARKANSAS																																
FORT SMITH	136	996.0	1014.3	33.6	19.8	26.7	1.2	36.1	23+	11.1	8	23	0	17.8	63	106	6	88	6	6	0	0	0.8	20	15.6	W	24	8	13	9	5.4	72
LITTLE ROCK	78	1005.4	1014.7	32.6	20.7	26.7	1.1	38.3	6	13.3	8	21	0	19.4	68	109	20	28	11	8	0	0	1.5	22	8.9	SW	30	8	11	11	5.5	90
CALIFORNIA																																
BAKERSFIELD	145	994.2	1011.3	36.2	21.4	28.8	3.9	43.9	25	14.4	11	23	0	10.6	35	2	0	2	2	2	0	0	2.1	32	13.0	6	7	17	7	6	3.3	
BISHOP	1252	872.7		33.1	13.5	23.3	2.4	38.3	30+	8.9	14+	20	0			15	13	8	8		0	0			21.0V		6	10	13	7	5.0	
BLUE CANYON	1609	839.5	1011.2	23.7	13.7	18.7	3.7	30.6	28+	4.4	11	0	0	4.4	43	2	-23	1	2		0	0	0.5	22	7.6	19	1					
EUREKA U	13			14.7	9.9	12.3	-0.6	20.6	4	8.3	3	0	0			2	-15	1	4		0	0			11.6	N	24	4	4	22	8.0	51
FRESNO	100	1000.0	1011.5	35.1	18.1	26.6	3.3	41.7	7	12.2	11	23	0	11.1	41	2	0	2	2	0	0	0	2.7	30	8.0	29	9+	17	6	7	3.9	87
LONG BEACH	6	1012.5	1014.0	24.8	16.1	20.5	0.9	28.9	29+	12.8	12	0	0	14.4	73	T	-1	T	0	0	0	0	2.1	23	6.7	27	19+	8	16	6	5.2	
LOS ANGELES	30	1010.5	1013.9	21.7	15.1	18.4	0.3	24.4	6	12.8	12	0	0	14.4	83	T	-1	T	0	0	0	0	3.0	25	11.2V	W	19+	5	12	13	6.4	
LOS ANGELES U	82			25.5	15.8	20.7	0.7	30.0	5	13.3	15+	0	0			0	-1	0	0		0	0			6.7	SW	19	5	22	3	4.9	
MT SHASTA R	1077	892.3	1014.3	27.2	10.6	18.9	3.3	34.4	25+	3.3	2	6	0			13	-15	6	3		0	0										
OAKLAND	2	1014.9	1015.0	20.1	13.3	16.7	0.1	27.2	21	11.1	2	0	0	11.7	75	T	-4	T	0	0	0	0	3.6	28	10.7	32	25+	7	11	12	6.3	
RED BLUFF	104	999.0	1011.4	35.6	19.4	27.5	3.3	45.0	24	13.3	14	22	0	11.1	40	11	-1	11	1	1	0	0	0.0	3	12.1	SE	8	10	8	12	5.3	92
SACRAMENTO	5	1010.8	1011.8	31.2	13.4	22.3	0.9	38.9	22	8.9	2	15	0	10.6	54	0	-3	0	0	0	0	0	3.3	19	10.7	SW	17+	11	14	5	4.6	86
SANDBERG R	1377	862.5	1013.3	25.7	14.0	19.9	2.1	32.2	25	6.1	10	1	0	4.4	41	1	0	1	1		0	0	2.3	31	13.0	12	6					
SAN DIEGO	4	1013.2	1014.2	20.9	16.6	18.8	0.2	24.4	30	15.0	4+	0	0	15.0	83	1	-1	1	1	1	0	0	2.5	26	7.6	NW	17+	4	12	14	6.8	53
SAN FRANCISCO	2	1013.9	1014.7	20.1	11.4	15.8	-0.7	28.9	25+	8.9	2	0	0	8.9	68	T	-3	T	0	0	0	0	5.0	29	14.3	28	1	7	11	12	6.2	
SAN FRANCISCO	16			16.7	11.2	13.9	-0.9	24.4	21	9.4	2	0	0			0	-4	0	0													
SANTA MARIA	72			20.9	10.8	15.9	0.6	26.7	4	6.1	3	0	0			T	-1	T	0		0	0						8	15	7	5.3	
STOCKTON	7	1011.5	1012.5	33.6	16.1	24.8	2.7	41.7	24+	11.7	14+	20	0	11.1	47	0	-2	0	0	0	0	0	3.5	30	10.7	28	1	9	12	9	5.3	
COLORADO																																
ALAMOSA	2297	775.1		27.3	5.3	16.3	1.0	31.1	17	0.6	16	0	0			30	17	14	7		0	0						8	11	11	5.8	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No of days				Precipitation			No of days		Snow, Ice pellets		Wind					No of days (sunrise to sunset)				
																									Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	813.1	1012.8	27.4	12.6	20.0	1.9	33.3	29	9.4	22	1	0	7.8	50	98	40	64	14	13	0	0	1.3	7	15.6	31	1	5	12	13	6.3	
DENVER	1610	837.1	1011.0	30.2	14.2	22.2	3.3	35.0	29	10.0	12	10	0	7.8	45	26	-23	8	10	11	0	0	1.0	16	15.6	N	26+	6	17	7	5.6	79
GRAND JUNCTION	1476	851.0	1008.9	35.3	17.0	26.2	4.3	37.2	28+	12.2	19	28	0	-0.6	20	1	-13	1	1	4	0	0	0.9	14	16.1	S	4	12	14	4	4.0	87
PUEBLO	1428	855.4	1010.8	32.8	14.1	23.4	1.9	38.3	15	10.0	22	20	0	9.4	47	6	-28	2	5	4	0	0	0.8	12	21.9	N	6	7	13	10	5.5	89
CONNECTICUT																																
BRIDGEPORT	2	1011.2	1011.8	23.2	13.5	18.4	-1.6	29.4	19	8.3	4	0	0	11.7	70	70	5	30	10	3	0	0	1.9	27	14.8	36	10	6	8	16	6.5	
HARTFORD	52	1004.7	1011.1	26.1	13.9	20.0	0.1	31.7	28	5.6	9	0	0	12.8	68	101	12	28	14	5	0	0	0.8	26	12.1	NW	20+	2	14	14	7.1	59
DELAWARE																																
WILMINGTON	23	1009.8	1012.8	25.9	15.1	20.5	-1.4	32.2	29	7.2	8	1	0	12.2	62	112	30	43	13	4	□	□	1.8	27	8.9	22	20	7	11	12	6.3	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1001.7	1013.2	27.3	12.9	20.2	-1.6	33.3	29+	2.2	8	5	0	13.3	66	78	-13	36	11	5	0	0	1.3	27	12.5	29	18	5	11	14	6.6	
WASHINGTON NATIONAL	3	1010.8	1013.4	28.7	18.3	23.5	-0.2	35.6	29	9.4	8	6	0	15.0	62	83	-5	31	9	5	0	0	1.4	26	17.0	NW	20	5	13	12	6.4	60
FLORIDA																																
APALACHICOLA U	6	1016.3	1016.8	32.8	21.7	27.3	0.6	36.1	11	13.3	9	22	0	21.7	75	8	-127	6	4	9	0	0	2.0	27	9.8	NW	7	10	16	4	4.4	84
DAYTONA BEACH	9	1015.2	1016.8	33.5	22.4	27.9	1.6	37.2	26	21.1	11+	23	0	22.2	77	29	-138	14	7	17	0	0	1.0	21	11.2	26	22	5	22	3	5.0	
FORT MYERS	5	1016.9	1017.2	31.5	22.7	27.1	-0.2	33.9	24+	20.6	1	16	0	22.2	79	228	2	61	16	15	0	0	0.7	22	16.5	2	28	6	17	7	5.7	
JACKSONVILLE	8	1015.2	1016.2	33.9	20.8	27.4	1.2	37.8	13	15.0	8	22	0	20.6	71	67	-92	24	9	12	0	0	1.3	24	11.6	SW	22	9	15	6	4.9	69
KEY WEST	1	1016.3	1016.9	30.6	26.3	28.4	-0.2	31.7	27+	23.9	4+	0	0	22.8	73	50	-66	36	5	1	0	0	3.0	13	11.2	16	2	7	12	11	6.1	88
LAKELAND U	65			34.6	22.5	28.6	1.6	37.8	13	20.6	20	24	0			128	-42	49	14		0	0						6	21	3	4.9	61
MIAMI	2	1017.6	1017.9	30.7	24.4	27.6	0.4	33.3	29+	21.1	2	8	0	22.8	77	315	87	208	13	9	0	0	1.3	13	11.2	21	9	8	10	12	5.9	73
ORLANDO/MC COY AFB	29	1013.2	1016.8	34.0	22.2	28.1	1.3	37.2	14+	20.6	3+	26	0	21.7	75	114	-67	31	15	21	0	0	1.4	23	13.4	25	26+	4	18	8	5.9	
PENSACOLA	34	1012.5	1016.8	33.4	22.2	27.8	0.8	36.7	11	15.0	8	25	0	21.1	70	39	-121	29	4	8	0	0	1.9	24	9.4	20	19+	12	17	1	3.8	
TALLAHASSEE	17	1014.2	1016.6	34.2	19.1	26.7	0.0	36.7	11	11.1	9	28	0	20.6	76	53	-115	27	8	14	0	0	0.9	28	11.2	6	22	13	14	3	4.6	
TAMPA	6	1016.9	1017.2	33.7	23.7	28.7	1.5	36.7	12	21.7	29+	27	0	22.2	71	68	-97	25	8	15	0	0	1.6	27	12.5	36	15	7	16	7	5.7	62
WEST PALM BEACH	5	1016.6	1017.4	31.8	22.8	27.3	0.4	33.9	25	20.0	2	22	0	22.8	79	102	-104	36	12	11	0	0	1.8	17	12.5	24	19+	9	13	8	5.6	
GEORGIA																																
ATHENS	244	986.5	1014.8	32.8	19.0	25.9	1.0	36.7	13+	10.0	10+	20	0	17.2	63	45	-64	14	10	14	0	0	1.7	28	10.3	33	6	7	13	10	5.5	
ATLANTA	308	979.3	1015.4	31.5	18.6	25.1	0.8	34.4	13+	8.9	10	17	0	16.7	63	77	-16	47	11	12	0	0	2.5	29	17.9	30	30	14	9	7	4.9	74
AUGUSTA	41	1009.5	1014.7	34.2	19.3	26.8	1.1	38.3	25	10.6	10	25	0	17.2	61	46	-47	21	9	11	0	0	1.3	25	14.3	32	6	14	8	8	5.0	
COLUMBUS	117	1002.0	1015.8	34.5	20.5	27.5	1.6	37.2	13+	12.2	9	28	0	18.3	64	88	-17	71	7	10	0	0	1.1	28	14.3	36	6	12	13	5	4.2	
MACON	108	1003.1	1015.7	35.7	19.9	27.8	1.4	39.4	13	12.8	9+	28	0	18.3	63	28	-70	11	7	9	0	0	1.6	27	16.1	NW	6	11	12	7	4.9	85
ROME	194			33.2	17.9	25.6	1.3	37.8	13	7.8	8	21	0			19	-76	8	7		0	0										
SAVANNAH	14	1013.9	1015.5	34.6	20.9	27.8	1.6	37.8	30+	15.0	8	25	0	19.4	66	51	-99	14	12	11	0	0	1.6	25	13.4	N	6	10	9	11	5.2	72
HAWAII																																
HILO	8	1015.9	1017.0	29.3	19.7	24.6	0.9	30.6	30+	18.3	26+	0	0	18.9	75	62	-105	14	25	0	0	0	0.2	1	7.2	E	20+	3	18	9	6.3	57
HONOLULU	2	1016.6	1017.1	30.2	22.6	26.4	0.3	31.7	29	20.0	28+	0	0	18.3	65	3	-5	2	3	0	0	0	5.5	6	12.1	E	15	4	24	2	5.3	66
KAHULUI	15	1014.2	1016.5	29.1	20.3	24.7	-0.3	31.1	28+	16.1	5	0	0			3	-2	3	4	0	0	0	6.1	5	13.9	NE	19+	22	8	0	2.8	88
LIHUE	31	1013.2	1018.4	27.5	22.3	24.9	-0.4	28.3	30+	20.6	9+	0	0	19.4	73	82	42	28	21	0	0	0	5.4	6	9.8	E	19+	0	24	6	6.0	58
IDAHO																																
BOISE	865	914.0	1012.3	29.4	13.1	21.2	3.0	38.3	6	7.2	30+	7	0	6.1	42	32	5	29	6	2	0	0	1.5	31	13.4	NW	1	9	12	9	5.4	79
LEWISTON	431			30.2	14.5	22.4	4.1	35.6	24+	7.2	2	12	0			9	-38	4	6		0	0			17.4Y		1					
POCATELLO	1358	862.9	1012.4	29.2	11.7	20.5	3.9	36.1	6	7.2	30	8	0	6.1	44	20	-13	13	7	7	0	0	2.1	23	18.8	W	14	7	15	8	5.4	80
ILLINOIS																																
CAIRO U	96			31.6	21.1	26.3	0.9	37.8	11+	14.4	7	11	0			104	-8	38	13		0	0			17.4	SW	30					71
CHICAGO O HARE	201	989.8	1014.0	27.1	14.4	20.7	0.7	35.6	4	5.6	3	4	0	11.7	57	130	25	49	5	6	0	0	0.6	32	13.4	36	8+	6	10	14	6.4	
CHICAGO MIDWAY	185	992.2	1014.5	26.9	15.0	20.9	-0.4	36.1	4	5.6	9	7	0	12.8	61	131	30	66	8	8	0	0	0.5	32	16.1	S	17	8	8	14	6.1	67
MOLINE	177	992.9	1014.2	27.8	14.4	21.1	-0.4	32.8	27	6.1	9	4	0	12.2	60	132	19	77	8	8	0	0	0.5	19	16.5	N	7	4	13	13	6.4	50
PEORIA	199	990.9	1014.5	27.8	14.6	21.2	-0.6	36.7	5	6.7	9	6	0	13.3	64	52	-47	15	8	8	0	0	0.4	17	13.0	NW	1	4	11	15	6.9	66
ROCKFORD	221	987.8	1014.6	26.2	13.1	19.7	-0.8	33.9	4	6.1	3	1	0	12.8	65	119	6	48	7	5	0	0	0.3	26	13.9	34	5	5	12	13	6.7	
SPRINGFIELD	179	992.6	1014.5	27.7	16.3	22.0	-0.7	37.8	5	7.2	9	2	0	16.1	72	108	3	46	13	8	0	0	0.5	20	15.2	W	30	5	9	16	7.0	52
INDIANA																																
EVANSVILLE	116	1000.7	1014.5	30.1	18.2	24.1	0.4	37.2	5	10.0	7	8	0	15.6	62	167	76	69	16	13	0	□	0.7	28	21.9	W	30	6	9	15	6.4	79

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	°C	°C	°C	°C		°C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	984.8	1014.3	26.8	13.6	20.2	-0.7	32.8	28	5.6	3	3	0	12.8	66	96	-3	32	10	5	0	0	1.6	28	19.7	NW	30	7	7	16	6.6	74
INDIANAPOLIS	241	985.8	1014.6	27.7	15.8	21.8	-0.3	32.8	17	6.7	7	2	0	15.6	72	98	-8	34	10	7	0	0	1.1	27	14.3	NW	30	9	6	15	6.4	54
SOUTH BEND	236	986.5	1013.9	25.6	13.4	19.5	-0.8	33.9	4	4.4	10	2	0	13.3	70	145	51	65	11	10	0	0	1.2	28	12.5	31	28	8	6	16	6.6	
IOWA																																
BURLINGTON	211			27.7	14.9	21.3	-0.6	35.0	5	4.4	9	4	0	15.0	67	53	-67	27	8	7	0	0	0.4	15	10.7	22	30+	6	12	12	6.4	
DES MOINES	286	979.7	1013.6	30.2	17.2	23.7	2.3	38.3	5	10.6	9	9	0	12.2	52	32	-93	26	5	5	0	0	0.4	17	16.1	N	30	9	7	14	6.2	73
DUBUQUE	322	976.3		25.8	13.7	19.8	0.1	32.2	27	6.7	9	1	0			56	-78	12	10		0	0										
SIOUX CITY	334	974.6	1013.7	27.6	15.6	21.6	0.3	36.7	10	10.0	7+	5	0	15.0	69	122	5	33	11	8	0	0	0.6	14	17.4	NW	30	10	10	10	5.4	73
WATERLOO	265	983.1	1014.3	27.3	13.7	20.5	0.2	35.6	5	3.9	9	3	0	12.8	63	104	-23	32	11	7	0	0	0.6	22	13.0	26	24+	6	12	12	6.4	
KANSAS																																
CONCORDIA	448	961.1	1012.6	30.0	17.6	23.8	1.3	36.1	10+	11.7	7	7	0	17.2	68	128	1	53	9	10	0	0	2.6	14	14.3	N	28	6	13	11	5.9	85
DODGE CITY	787	923.1	1011.4	33.9	18.8	26.4	3.2	39.4	27+	11.7	7	19	0	13.9	52	28	-57	14	4	5	0	0	2.5	15	17.0	NE	30+	11	8	11	5.3	79
GOODLAND	1114	887.6	1011.9	29.9	14.2	22.1	1.4	37.2	27	10.6	7	8	0	13.3	65	33	-41	14	7	8	0	0	2.3	13	18.3	24	21	13	9	8	4.8	
TOPEKA	267	982.4	1013.5	29.7	18.2	24.0	0.9	36.7	5	10.0	7	6	0	18.9	76	277	130	70	11	11	0	0	1.6	15	13.0	NW	12	5	8	17	6.8	59
WICHITA	403	966.1	1012.8	32.1	19.3	25.7	1.4	38.9	9	11.7	7	14	0	17.2	63	80	-34	49	11	14	0	0	2.3	17	13.4	NW	13	10	10	10	5.8	70
KENTUCKY																																
COVINGTON	265	983.4	1014.6	26.1	14.7	20.4	-1.9	30.6	17	4.4	10	0	0	15.6	77	187	90	46	12	8	0	0	1.3	26	13.4	23	28	6	7	17	6.9	
LEXINGTON	294	980.0	1015.0	27.9	16.8	22.4	-0.4	31.7	30+	6.7	10	0	0	16.1	71	122	12	22	15	12	0	0	1.3	23	12.5	28	5	3	9	18	7.5	
LOUISVILLE	145	997.0	1014.3	28.7	17.9	23.3	0.3	33.9	30	10.0	10	3	0	16.7	70	193	90	56	15	12	0	0	0.8	25	16.5	W	30	5	9	16	6.8	56
LOUISIANA																																
ALEXANDRIA	28	1011.9	1016.0	35.1	21.1	28.1	2.2	38.3	22+	11.1	8	26	0	20.6	69	38	-61	33	3	5	0	0	1.3	19								
BATON ROUGE	20	1014.2	1016.8	34.0	22.1	28.1	1.2	35.6	30+	16.1	8	28	0	20.0	65	37	-59	12	8	8	0	0	1.3	22	13.0	20	13	13	13	4	4.3	
LAKE CHARLES	3	1014.9	1016.2	32.2	22.6	27.4	0.3	36.1	6+	17.2	8	18	0	21.7	77	156	28	99	7	5	0	0	2.1	18	10.3	14	13+	14	10	6	4.7	
NEW ORLEANS	1	1015.6	1016.4	33.6	22.4	28.0	1.1	35.6	24	18.9	10+	26	0	22.8	75	44	-76	25	5	6	0	0	1.1	21	12.5	27	20	16	10	4	4.1	73
SHREVEPORT	77	1006.4	1015.5	32.9	19.8	26.4	-0.4	36.7	6	11.1	8	24	0	21.1	76	61	-24	24	7	5	0	0	1.7	20	12.5	16	4	9	15	6	5.1	62
MAINE																																
CARIBOU	190	987.8		19.1	10.7	14.9	-0.4	31.7	28	6.1	10	0	0			164	77	36	25		0	0						1	4	25	8.7	
PORTLAND	13	1008.5	1010.7	19.7	10.3	15.0	-1.8	27.2	28	4.4	9	0	0	11.7	86	86	7	17	18	1	0	0	0.7	21	10.3	S	25	5	6	19	7.6	43
MARYLAND																																
BALTIMORE	45	1007.5	1013.1	27.8	15.9	21.9	-0.6	33.3	29+	6.1	8	4	0	14.4	67	87	-8	35	10	5	0	0	1.7	28	13.0	W	9	6	13	11	6.1	55
MASSACHUSETTS																																
BLUE HILL OBS R	192			22.7	12.6	17.7	-0.9	30.0	28	6.1	8+	0	0			122	42	46	14		0	0			19.7	S	17					49
BOSTON	5	1010.2	1011.3	24.3	15.0	19.7	-0.3	32.2	28	10.0	8+	1	0	13.9	73	63	-18	24	10	4	0	0	1.3	25	15.6	SW	17	3	12	15	6.9	67
WORCESTER	301	973.9		21.9	11.9	16.9	-1.5	28.3	28	5.0	8	0	0	11.1	71	102	10	20	13	6	0	0	2.1	29	9.8	32	4	2	10	18	7.7	
MICHIGAN																																
ALPENA	210	988.2	1013.4	22.8	7.4	15.1	-0.9	32.2	27	0.6	9	1	0	8.9	69	35	-38	19	7	1	0	0	1.0	30	10.3	NW	29	8	13	9	5.8	77
DETROIT	189			24.9	14.7	19.8	-0.8	32.2	28+	6.7	9	2	0	10.6	56					7			1.0	27	13.0	25	18					
DETROIT METRO	193	989.5	1013.4	25.3	11.8	18.6	-1.6	33.3	17	5.6	10+	3	0	11.1	64	80	-7	31	12	7	0	0	1.0	29	16.1	SW	28	7	9	14	6.1	66
FLINT	235	985.8	1013.3	23.3	11.2	17.3	-1.5	30.0	28+	3.3	9	0	0	9.4	63	119	32	37	11	7	0	0	1.0	26	14.3	17	30	7	11	12	6.2	
GRAND RAPIDS	239	985.1	1013.9	25.0	11.1	18.1	-1.6	32.8	27	3.3	9+	1	0	12.2	70	89	2	25	11	6	0	0	1.3	26	15.6	S	30	5	13	12	6.2	61
HOUGHTON LAKE	350	971.9	1013.7	23.2	9.0	16.1	-0.9	31.7	27	-0.6	3	0	1	9.4	65	24	-61	15	10	0	0	0	1.3	28	11.2	27	18	8	11	11	5.9	
LANSING	256	982.4	1013.6	24.7	10.8	17.8	-1.7	32.2	28	2.2	3	1	0	12.2	71	89	1	30	11	7	0	0	1.2	27	14.3	S	30	6	12	12	6.5	71
MARQUETTE U	206			19.8	10.4	15.1	-0.4	32.2	26	5.0	13	1	0			79	-9	30	12		0	0			10.3	S	30+					69
MUSKEGON	191	991.2	1014.0	22.6	11.1	16.8	-1.8	29.4	27	3.3	3	0	0	11.1	72	64	-3	23	13	9	0	0	1.5	27	13.9	14	30	8	11	11	5.8	
SAULT STE MARIE	220	986.8	1013.2	19.6	5.7	12.7	-2.2	27.8	26	-1.1	9+	0	5	8.3	76	60	-24	17	14	4	0	0	1.6	31	12.5	NW	29	8	7	15	6.4	59
MINNESOTA																																
DULUTH	435	962.8	1013.9	21.4	9.6	15.6	0.6	30.0	26	2.8	9	0	0	9.4	70	101	-12	19	15	9	0	0	0.5	10	14.8	W	30	1	9	20	7.6	59
INTERNATIONAL FALLS	359	970.2	1013.0	22.5	10.6	16.6	0.8	30.0	26	3.3	2	0	0	11.1	73	107	7	42	17	10	0	0	0.4	29	11.2	26	30	1	9	20	7.7	
MINNEAPOLIS	254	983.4	1013.6	25.7	14.7	20.2	0.8	33.3	26	9.4	9	2	0	13.3	65	91	-9	30	14	12	0	0	0.4	24	17.4	S	27	5	13	12	6.5	67
ROCHESTER	395	966.8	1014.1	25.3	13.3	19.3	0.4	33.9	27	6.7	9	2	0	12.2	66	118	1	51	10	10	0	0	0.9	22	19.2	29	28	3	18	9	6.2	
ST CLOUD	313	977.3	1014.1	25.4	12.2	18.8	0.6	31.7	26	5.6	9	0	0			88	-29	31	13		0	0						4	13	13	6.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground) m	Pressure: Station Ø mb	Pressure: Sea level mb	Temperature: Average maximum °C	Temperature: Average minimum °C	Temperature: Average °C	Temperature: Departure from normal °C	Temperature: Highest °C	Temperature: Date	Temperature: Lowest C	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point °C	Average relative humidity %	Precipitation: Total mm	Precipitation: Departure from normal mm	Precipitation: Greatest in 24 hours mm	Precipitation: No. of days: .25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Ice pellets: Total mm	Snow, Ice pellets: Maximum depth on ground mm	Wind: Resultant speed m/s	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed m/s	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine %
MISSISSIPPI																																
JACKSON	94	1004.4	1016.1	34.0	21.2	27.6	1.3	36.7	30+	10.6	8	25	0	19.4	64	55	-31	38	6	6	0	0	1.3	23	14.3	3	5	16	10	4	3.7	85
MERIDIAN	88	1005.4	1016.3	35.4	20.1	27.8	1.6	37.8	12+	10.0	8	28	0	19.4	66	40	-54	16	6	5	0	0	1.2	24	10.3	17	19+	14	12	4	4.2	
MISSOURI																																
COLUMBIA REGIONAL	270	982.7	1014.3	28.7	17.4	23.1	0.3	33.9	10	11.1	7	3	0	17.2	74	133	17	32	11	10	0	0	1.1	19	11.6	W	30+	4	9	17	7.0	58
KANSAS CITY	309	977.7	1013.4	29.1	18.1	23.6	0.3	36.1	10+	12.2	7	5	0	17.8	72	157	16	45	10	12	0	0	1.4	16	12.1	S	28	5	11	14	6.2	85
ST JOSEPH	247			30.2	17.9	24.1	0.8	36.7	5	9.4	7	10	0			107	-58	60	7		0	0										
ST LOUIS	163	994.6	1014.7	29.4	17.9	23.7	-0.1	36.1	5	9.4	9	4	0	17.8	74	139	27	50	11	9	0	0	0.9	25	11.6	W	30+	7	7	16	6.9	50
SPRINGFIELD	386	970.2	1014.6	30.7	17.9	24.3	1.2	36.1	11+	9.4	8	8	0	18.3	76	181	61	52	15	14	0	0	1.7	18	16.1	W	30	9	9	12	6.1	63
MONTANA																																
BILLINGS	1087	890.6	1012.3	28.6	12.7	20.7	3.7	35.6	25	7.8	30	8	0	6.7	44	16	-50	6	7	6	0	0	0.3	32	17.0	NW	16	9	9	12	5.9	70
GLASGOW	696	932.6	1013.2	25.7	11.7	18.7	2.1	34.4	7	8.3	18	4	0	7.8	54	29	-40	14	9	7	0	0	1.0	6	13.0	30	2	7	11	12	6.1	
GREAT FALLS	1116	888.9	1013.9	26.7	10.3	18.6	2.6	34.4	1	1.7	17	6	0	5.0	46	14	-65	8	8	6	0	0	1.7	25	17.9	NW	1	4	12	14	6.8	63
HAVRE	788	922.5		27.9	10.5	19.2	2.5	36.1	1	5.0	30	8	0			15	-50	5	7	5	0	0	0.4	25	15.2	W	1	6	12	12	6.0	81
HELENA	1167	881.8	1015.1	25.3	9.8	17.6	2.4	32.8	24+	5.6	30	2	0	5.0	48	35	-26	15	8	7	0	0	1.7	29	18.8	W	1	5	12	13	6.6	61
KALISPELL	904	912.0	1015.2	25.7	7.1	16.4	2.5	33.3	6	2.2	30	1	0	5.6	51	11	-54	6	6	4	0	0	0.7	23	10.3	28	1	5	16	9	5.9	
MILES CITY	801	921.1	1012.1	29.2	14.2	21.7	3.4	37.2	25	10.6	13	8	0	7.8	46	35	-49		7	6	0		0.8	36								
MISSOULA	972	904.8	1015.2	26.3	8.6	17.4	2.5	33.9	6	4.4	30	1	0	6.7	52	17	-37	10	6	4	0	0	1.1	30	19.2	NW	1	6	15	9	6.0	58
NEBRASKA																																
GRAND ISLAND	561	948.5	1013.1	29.3	16.9	23.2	1.7	37.2	10	10.0	7	7	0	15.0	64	35	-77	19	4	6	0	0	1.9	14	14.3	35	17	9	13	8	5.2	
LINCOLN	359	971.6	1013.1	30.4	16.7	23.6	1.3	36.7	10+	9.4	7	10	0	15.0	62	25	-106	19	4	7	0	0	1.1	13	15.6	N	30	10	11	9	5.2	74
NORFOLK	471	958.3	1012.9	29.0	16.3	22.7	1.6	37.8	10	10.0	7	7	0	13.9	62	128	4	40	10	10	0	0	1.0	17	16.5	34	30	10	12	8	5.3	
NORTH PLATTE	846	917.0	1012.9	28.3	14.4	21.4	1.4	34.4	10	9.4	7	4	0	13.9	64	33	-62	22	7	5	0	0	1.7	13	20.6	N	30	8	11	11	5.9	69
OMAHA	401			28.7	16.7	22.7	1.5	37.8	10	12.2	7	7	0	16.7	65	56	-70	20	8	7	0		0.5	14				10	11	9	5.4	
SCOTTSBLUFF	1206	879.4	1011.8	30.5	15.2	22.8	4.0	38.3	4	10.0	1	14	0	10.6	52	103	18	31	10	17	0	0	1.6	10	17.9	6	14	10	13	7	5.2	
VALENTINE	789	922.1		28.9	14.6	21.8	2.4	35.6	29+	9.4	1	9	0			74	-17	49	9		0	0	0.5	16	17.4	S	29	8	14	8	5.3	81
NEVADA																																
ELKO	1539	844.9	1011.9	30.5	10.9	20.7	5.4	36.7	5	7.2	18	12	0	2.8	35	26	1	10	7	6	0	0	0.6	25	11.2	10	25	9	11	10	5.4	
ELY	1906	810.4	1011.7	27.6	6.3	16.9	2.7	32.8	27	1.1	15	1	0	2.8	41	12	-11	8	5	8	0	0	2.9	21	15.2	SE	7	8	16	6	5.1	
LAS VEGAS	659	934.0	1008.2	39.4	22.7	31.1	3.2	45.6	30+	16.1	10	30	0	1.1	16	1	-1	1	1	3	0	0	2.4	21	23.2	SW	9	14	9	7	3.8	80
RENO	1342	865.9	1012.6	30.1	10.5	20.3	3.9	37.2	5	6.1	11	12	0	6.7	44	26	16	14	7	9	0	0	1.0	28	13.9	N	24	8	9	13	5.9	82
WINNEMUCCA	1311	867.9	1011.9	31.2	11.6	21.4	4.9	40.0	5	7.2	29	16	0	6.7	42	60	34	43	6	5	0	0	0.5	30	16.1	SW	17	10	8	12	5.6	81
NEW HAMPSHIRE																																
CONCORD	104	998.6	1011.1	23.9	10.4	17.2	-1.0	32.2	28	1.1	9	1	0	11.1	69	88	3	22	16	3	0	0	1.1	28	11.2	NW	30+	4	12	14	7.1	52
MT WASHINGTON OBS	1909			8.2	2.9	5.6	-1.4	16.1	28	-3.9	3	0	9			282	117	45	22	1	8	T			39.8	W	30	1	3	26	9.1	17
NEW JERSEY																																
ATLANTIC CITY	20	1010.2	1012.6	25.2	14.2	19.7	-1.6	32.2	29	5.6	4	1	0	13.3	67	39	-47	25	7	2	0	0	1.7	25	10.3	17	28+	6	13	11	6.4	56
ATLANTIC CITY U	3			22.9	16.0	19.5	-1.1	30.0	29	8.9	8	0	0			45	-26	27	8						11.6	NW	11					
NEWARK	2	1010.8	1011.9	25.8	16.7	21.3	-0.6	32.2	29	10.0	8	1	0	12.2	60	99	23	57	9	3	0	0	1.5	28	9.4	35	20+	5	9	16	6.9	
TRENTON U	17			26.0	16.1	21.1	-0.8	31.1	29	8.9	8	0	0			133	52	57	10		0	0			13.0	NW	20+	5	11	14	6.5	51
NEW MEXICO																																
ALBUQUERQUE	1619	838.8	1010.7	33.0	15.3	24.2	0.5	36.7	28+	10.6	23	24	0	1.7	27	1	-12	1	2	3	0	0	0.8	18	17.0	E	28	12	8	10	5.3	72
CLAYTON	1515			30.9	14.4	22.7	2.0	36.7	16	11.7	12+	13	0			20	-24	9	6		0	0										
ROSWELL	1112	888.9	1009.5	35.6	19.4	27.6	2.6	41.7	17+	16.1	6	25	0	10.6	40	6	-25	2	6	7	0	0	1.9	14	17.4	SW	20	13	14	3	4.3	95
NEW YORK																																
ALBANY	84	1001.4	1011.8	24.0	12.2	18.1	-1.6	30.0	27	2.8	9	0	0	12.8	72	73	-3	27	13	3	0	0	1.0	27	13.4	NW	20	2	11	17	7.4	37
BINGHAMTON	485	955.3	1013.6	21.3	11.8	16.6	-1.7	27.2	27	4.4	8+	0	0	11.7	74	81	-11	16	13	6	0	0	2.2	28	16.1	W	20	4	13	13	6.7	47
BUFFALO	215	987.5	1012.8	23.1	12.9	18.0	-0.7	30.0	16	5.6	3	0	0	11.1	66	71	14	39	9	6	0	0	2.4	24	16.5	SW	29	6	11	13	6.8	62
NEW YORK U	40	1009.1	1012.3	25.6	16.8	21.2	-0.8	31.1	29+	10.0	8	0	0	13.3	64	97	22	49	10	3	0	0	1.2	27	8.9	NW	3					53
NEW YORK KENNEDY	4	1011.5	1012.2	23.9	15.3	19.7	-1.2	31.1	29	10.0	8	0	0	13.3	71	83	7	43	10	2	0	0	1.5	26	11.2	1	20	6	13	11	6.2	
NEW YORK LA GUARDIA	3	1011.2	1012.2	24.9	16.6	20.8	-1.2	30.0	29+	10.0	8	0	0	12.2	62	90	17	43	9	3	0	0	1.5	27	13.4	NE	9	4	10	16	6.6	
ROCHESTER	167	992.6	1012.5	24.1	12.3	18.2	-1.2	30.0	27+	3.3	3	0	0	12.2	71	34	-31	12	6	5	0	0	2.1	28	14.3	SW	29+	3	13	14	6.9	62

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	997.6	1012.3	23.1	10.9	17.1	-2.3	29.4	27	5.6	11+	0	0	11.7	72	84	5	31	13	5	□	0	1.6	27	15.6	NW	29	3	11	16	7.2	47
NORTH CAROLINA																																
ASHEVILLE	652	941.1	1016.0	27.3	14.5	20.9	-0.5	32.2	6	3.9	8	1	0	13.9	69	130	29	38	14	10	0	0	1.8	34	17.9	36	6	6	19	5	5.4	67
CAPE HATTERAS R	2	1013.9	1014.4	27.4	19.9	23.7	0.2	32.2	30+	13.3	4	2	0	18.9	77	78	-45	36	11	6	0	0	1.3	27	9.4	22	9	10	9	11	5.5	
CHARLOTTE	224	987.8	1014.9	29.9	18.0	24.0	-0.4	34.4	30+	7.8	10	10	0	16.7	69	79	-15	25	12	11	0	0	0.8	25	14.3	N	6	4	13	13	6.2	63
GREENSBORO	273	983.4	1014.7	29.6	16.6	23.1	-0.4	35.0	28	5.6	8	9	0	15.0	65	39	-60	22	8	6	0	0	1.2	27	14.3	NW	9	4	14	12	6.6	61
RALEIGH	132	998.6	1014.3	29.7	16.2	22.9	-0.6	36.1	28	3.3	8	11	0	17.2	74	21	-72	10	8	5	0	0	1.0	25	17.4	33	6	7	14	9	5.9	60
WILMINGTON	9	1013.5	1014.8	31.2	19.6	25.4	0.1	36.7	29+	11.1	8	13	0	20.0	76	108	-34	46	11	10	0	0	1.1	25	16.1	NE	6	10	9	11	5.5	63
NORTH DAKOTA																																
BISMARCK	502	954.6	1013.5	26.1	11.2	18.7	1.0	35.0	7	5.0	1	3	0	10.6	63	60	-31	19	9	8	0	0	0.3	1	18.3	NW	15	6	16	8	5.5	67
FARGO	273	980.0	1012.5	25.4	12.9	19.2	1.1	32.8	26	7.8	6	2	0	12.2	66	42	-40	17	10	6	0	0	0.4	25	15.6	N	5	7	6	17	6.5	62
WILLISTON	579	945.8	1013.4	26.2	12.0	19.1	2.1	36.1	25	7.8	13+	2	0	9.4	59	33	-50	17	11	8	0	0	0.8	3	16.1	NW	29	6	11	13	6.2	61
OHIO																																
AKRON	368	970.2	1014.2	24.9	12.8	18.9	-1.3	31.1	17	4.4	7+	0	0	11.1	63	138	49	53	11	8	0	0	1.4	27	11.2	33	17	6	7	17	6.8	
CINCINNATI ABBE OB	232			26.7	15.8	21.3	-1.6	32.2	17	6.1	10	1	0			164	65	52	13						9.8	W	28					86
CLEVELAND	237	985.8	1014.6	23.6	11.2	17.4	-2.6	31.7	17	1.7	3	0	0	12.8	76	125	41	48	14	7	0	0	1.2	27	10.7	18	30	8	6	16	6.3	66
COLUMBUS	247	984.8	1014.4	26.1	13.3	19.7	-1.6	31.1	27+	3.9	7	0	0	12.2	63	102	-3	33	11	7	0	0	1.0	26	14.8	W	30	5	9	16	6.6	51
DAYTON	303	978.7	1014.2	27.2	14.1	20.7	-1.2	32.8	30+	6.1	10	2	0	13.3	66	62	-36	28	12	7	0	0	1.5	26	15.2	W	30	6	9	15	6.8	67
MANSFIELD	395			23.6	11.4	17.5	-3.5	28.3	27+	3.3	7	0	0	11.7	70	94	5	40	9	5	0	0	1.3	26	13.0	26	30	5	9	16	6.7	
TOLEDO	204	988.8	1013.8	25.4	11.3	18.3	-2.2	32.2	28+	2.8	3	2	0	12.2	70	88	3	34	11	6	0	0	1.0	29	16.1	W	20	7	10	13	6.2	59
YOUNGSTOWN	359	971.9	1014.1	23.4	11.4	17.4	-2.0	30.6	27	2.2	8+	0	0	12.2	73	146	55	38	14	7	0	0	1.3	28	12.5	28	20	8	8	14	6.4	
OKLAHOMA																																
OKLAHOMA CITY	392	967.8	1013.0	32.6	20.3	26.4	1.6	36.1	5	13.3	8	22	0	18.9	68	51	-56	25	6	7	0	0	4.0	18	17.0	N	28	10	12	8	4.7	80
TULSA	198	989.5	1013.3	33.3	21.1	27.2	2.1	37.2	9	12.8	7	21	0	19.4	66	170	51	70	9	8	0	0	3.0	19	13.9	NE	12	8	15	7	5.3	71
OREGON																																
ASTORIA	2	1019.3	1020.2	18.1	9.5	13.8	0.2	26.1	5	4.4	23+	0	0	10.0	80	35	-28	28	8	0	0	0	2.4	28	9.8	31	29	3	7	20	7.7	
BURNS J	1265			27.4	10.4	18.9	3.9	34.4	6	1.1	2	4	0			10	-14	5	6		0	0			19.7V		5	8	15	7	5.4	
EUGENE	109	1004.7	1018.4	24.4	7.8	16.1	-0.2	30.0	30+	1.1	2	0	0	10.6	71	25	-8	17	3	0	0	0	1.4	35	9.8	35	29	3	15	12	6.6	
MEDFORD	396	968.5	1015.5	30.2	11.6	20.9	3.0	36.7	28	3.9	2	12	0	8.9	53	13	-9	8	7	3	0	0	1.4	33	11.2	36	12	12	7	11	5.1	
PENDLETON	452	962.4		28.6	12.6	20.6	1.9	34.4	7	6.7	9+	7	0			9	-16	7	2	0	0	0			19.7V	W	28+	8	13	9	5.6	
PORTLAND	6	1017.3	1018.4	24.1	11.3	17.7	1.1	31.1	30+	5.0	2	0	0	10.0	65	21	-19	19	3	0	0	0	2.6	34	9.4	NW	30	5	15	10	6.2	65
SALEM	60	1010.8	1018.2	24.3	8.8	16.6	0.3	32.2	30	2.2	2	1	0	10.0	66	19	-17	17	3	0	0	0	0.7	34	8.9	34	9	4	16	8	6.1	
SEXTON SUMMIT R	1169	885.9	1016.2	22.1	9.5	15.8	2.7	29.4	5	1.7	2	0	0			9	-23	4	5		0	0	4.3	36	14.8	1	28+					
PACIFIC AREA																																
GUAM TAGUAC R	110			30.5	22.9	26.7	0.2	31.1	21+	21.1	5	0	0			130	-2	26	27		0	0			10.3	E	15	0	12	18	7.9	63
JOHNSTON	2	1014.2	1014.7	28.2	24.3	26.3	-0.5	28.9	30+	22.2	4	0	0	21.7	76	23	-3	8	15	0	0	0	7.9	9	15.2	E	15	7	19	4	5.1	82
KOROR R	29	1005.4		31.4	24.7	28.1	0.5	32.8	21+	23.3	10	7	0			283	-66	69	27	2	0	0	1.0	10	9.8	SE	8	0	3	27	9.0	52
KWAJALEIN	2	1009.1		30.3	25.3	27.8	0.1	31.1	19+	22.8	14	0	0			201	-51	78	21	0	0	0	5.7	7	13.4	11	21	2	10	18	7.4	
MAJURO	3	1009.5		30.2	24.4	27.3	0.1	31.1	30+	22.8	21	0	0			213	-97	42	26		0	0	4.7	7	12.5	E	22	0	7	23	8.7	61
PAGO PAGO	4	1012.2	1012.3	28.9	25.0	26.9	0.8	30.6	9+	22.8	8+	0	0	22.2	76	132	-107	112	11	2	0	0	6.5	11	13.4	E	29	1	14	15	7.3	
PONAPE R	37			31.0	24.0	27.5	0.6	32.2	19+	21.7	14	4	0			373	-24	59	27	2	0	0			8.0	E	20	0	4	26	8.9	28
TRUK MOEN ISLAND	2	1009.1		31.2	24.9	28.1	0.7	32.2	20+	22.8	29+	2	0			180	-140	32	25	0	0	0	3.1	7	8.0	NE	28+	0	1	29	9.7	23
WAKE	3	1013.9	1014.3	31.6	24.2	27.9	0.4	32.8	2	22.8	26+	11	0	23.3	80	46	-13	25	17	0	0	0	5.5	8	11.6	E	20	15	9	6	4.5	80
YAP R	13	1007.5		31.0	23.6	27.3	-0.3	31.7	30+	21.7	11+	0	0			190	-87	59	25	0	0	0	2.8	10	8.5	SE	13+	2	9	19	8.2	42
PENNSYLVANIA																																
ALLENTOWN	118	999.0	1012.9	25.9	14.8	20.4	-0.4	30.6	29+	7.2	8	0	0	12.2	63	93	5	31	11	6	0	0	1.8	28	12.5	28	29	3	17	10	6.4	
ERIE	223	987.5	1013.9	21.4	11.8	16.6	-1.5	26.7	28+	2.2	8	0	0	12.8	78	112	23	31	8	3	0	0	1.8	25	11.2	3	6	9	10	11	5.5	
HARRISBURG	103	1000.3	1012.9	26.0	14.7	20.3	-1.9	30.6	29	6.1	8	0	0	13.3	68	81	2	29	9	4	0	0	1.6	29	12.1	NW	20	9	12	9	5.9	72
PHILADELPHIA	2	1011.9	1012.8	25.9	14.7	20.3	-2.1	30.6	29	6.7	8	0	0	13.9	71	135	41	40	12	5	0	0	1.6	28	10.7	W	29+	5	12	13	6.6	52
PITTSBURGH	347	970.9	1014.3	23.9	11.4	17.7	-2.7	28.9	27+	3.9	8+	0	0			72	-16	21	12	5	0	0	1.8	28	11.2	32	6	5	13	12	6.9	36
SCRANTON	283	979.0	1012.9	23.1	12.7	17.7	-2.3	28.3	27	4.4	4	0	0	12.2	74	80	-6	26	12	5	0	0	1.2	26	17.4	NW	20	7	10	13	6.5	54
WILLIAMSPORT	160	994.2	1013.0	25.4	13.5	19.4	-1.0	30.6	1	7.2	4	0	0	12.2	68	89	7	23	12	7	0	0	1.4	31	16.1	30	20	7	12	11	6.3	
RHODE ISLAND																																
BLOCK ISLAND	34			20.8	14.2	17.5	0.2	25.6	19	10.6	10+	0	0			113	57	55	9		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .25 mm or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Ice pellets: Total	Precipitation: Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	°C	°C	°C	°C	°C		C				°C	%	mm	mm	mm			mm	mm	m s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1009.1	1011.4	24.3	14.2	19.3	0.2	30.0	28+	8.3	9+	0	0	13.3	72	100	32	42	13	3	0	0	1.3	26	14.3	36	10	5	9	16	6.9	58
SOUTH CAROLINA																																
CHARLESTON	12	1013.5	1015.5	33.1	21.5	27.3	1.8	37.2	25	13.3	10	21	0	20.0	69	54	-106	18	10	11	0	0	1.6	22	13.4	30	26	8	16	6	5.2	83
CHARLESTON J	3			32.6	22.9	27.8	1.6	37.2	28	18.3	8	16	0			82	-58	28	11		0	0										
COLUMBIA	65	1006.8	1014.7	33.3	18.2	25.7	-0.3	37.8	12	7.2	10	22	0	16.7	64	56	-41	22	9	11	0	0	0.8	27	13.4	36	6	7	15	8	5.6	80
GRNVLLE-SPRTNBRG	292	980.7	1014.5	31.7	18.9	25.3	0.9	36.1	6	10.0	8	14	0	16.7	64	73	-30	20	12	10	0	0	0.9	26	12.1	N	6	8	16	6	5.5	64
SOUTH DAKOTA																																
ABERDEEN	395	966.8	1013.1	26.8	12.8	19.8	1.3	32.8	26	7.8	2	3	0	13.3	69	51	-42	13	10	7	0	0	0.1	3	15.6	24	10	11	11	8	5.3	
HURON	390	966.5	1012.2	29.0	13.4	21.2	1.7	34.4	26+	6.7	20	7	0	13.9	65	33	-62	10	10	9	0	0	0.7	13	15.2	NW	16	10	13	7	5.1	77
RAPID CITY	964	904.8	1013.5	28.1	13.1	20.6	2.7	36.1	25	7.8	30+	4	0	11.7	60	45	-49	13	13	16	0	0	1.2	36	17.9	NW	29	6	18	6	5.3	75
SIOUX FALLS	432	962.8	1013.4	28.8	14.6	21.7	1.9	35.6	10	7.8	2	6	0	12.2	57	44	-66	17	11	12	0	0	0.5	18	13.0	34	30	10	11	9	5.1	
TENNESSEE																																
BRISTOL	459	962.4	1015.8	27.8	15.7	21.8	-0.7	32.2	6	5.6	10+	1	0	15.6	72	96	6	25	16	9	0	0	1.5	26	10.3	33	6	3	13	14	7.1	
CHATTANOOGA	203	991.2	1015.5	31.7	18.9	25.3	0.9	36.7	12+	8.9	8	15	0	18.3	70	62	-31	19	11	10	0	0	0.9	28	12.5	31	13	8	12	10	5.5	66
KNOXVILLE	299	981.0	1015.4	30.0	18.1	24.1	-0.1	35.0	6	8.9	8	5	0	17.2	70	165	73	35	14	14	0	0	1.7	26	14.3	18	24	5	17	8	6.0	78
MEMPHIS	79	1005.4	1015.2	33.2	22.3	27.7	1.8	37.8	12+	14.4	8	24	0	19.4	64	86	-2	30	9	7	0	0	1.4	23	17.9	2	6	14	4	12	5.1	78
NASHVILLE	180	993.9	1015.1	31.5	18.7	25.1	0.3	36.7	12+	8.3	8	14	0	17.8	68	109	23	40	10	11	0	0	1.5	25	15.6	30	24	4	16	10	5.9	63
OAK RIDGE R	276			29.1	15.3	22.2	-1.2	33.9	6	3.9	8	4	0			170	70	46	17		0	0			15.2		18	8	14	8	5.6	
TEXAS																																
ABILENE	544	951.2	1012.4	34.1	20.7	27.4	0.6	37.2	18+	16.1	8	25	0	16.1	53	43	-28	16	4	4	0	0	4.3	17	16.5	SE	21	18	7	5	3.4	86
AMARILLO	1098	891.0	1011.0	32.7	18.5	25.6	1.9	37.8	17+	15.0	14	19	0	13.9	53	52	-35	17	9	12	0	0	3.6	19	17.4	9	13	12	14	4	4.5	75
AUSTIN	182	992.9	1014.6	33.3	22.4	27.9	0.3	34.4	29+	20.0	8+	26	0	20.6	70	31	-49	15	7	1	0	0	2.7	18	14.3	SW	22	7	15	8	5.5	76
BROWNSVILLE	6	1013.2	1013.9	32.6	23.6	28.1	-0.1	34.4	11+	20.0	7	25	0	22.8	77	120	49	47	8	5	0	0	4.2	15	20.1	SE	21	12	10	8	5.2	71
CORPUS CHRISTI	12	1012.5	1014.2	32.9	23.6	28.3	0.3	36.1	7	20.6	2	27	0	23.9	80	90	23	54	7	3	0	0	3.9	14	11.6	34	1	8	15	7	5.4	73
DALLAS - FORT WORTH	168	992.9	1013.5	35.7	22.2	28.9	1.9	38.3	6	15.6	8	28	0	19.4	60	18	-60	14	4	2	0	0	3.5	19	12.5	33	12	10	16	4	4.2	
DEL RIO	313	976.6	1011.7	34.9	21.6	28.3	-0.8	37.8	14	17.8	5	29	0	19.4	62	31	-20	16	4	4	0	0	4.6	12	13.0	26	29	10	14	6	5.1	
EL PASO	1194	880.8	1008.8	37.0	18.0	27.5	0.7	41.7	17	13.3	6	30	0	7.8	33	1	-14	1	3	5	0	0	0.5	19	15.6	5	30+	16	8	6	3.7	88
GALVESTON	2			29.2	25.2	27.2	-0.2	33.3	4	22.2	15+	2	0			72	-31	46	5		0	0			13.4	S	14					76
HOUSTON INTERCON	29	1011.5	1015.3	33.5	20.9	27.2	-0.1	36.7	6+	15.6	8	27	0	21.7	77	90	-25	74	4	6	0	0	2.0	16	8.0	20	22+	13	8	9	5.0	73
LUBBOCK	992	903.5	1011.5	33.6	18.9	26.3	1.2	40.6	17	15.6	7+	22	0	13.9	52	58	-13	29	7	13	0	0	3.5	17	14.8	28	20	17	9	4	3.4	84
MIDLAND	869	915.0	1010.7	35.9	19.7	27.8	1.2	41.1	18+	16.7	5	28	0	13.9	47	21	-17	6	7	10	0	0	4.6	15	14.8	26	24	17	9	4	3.2	
PORT ARTHUR	5	1015.2		33.6	23.7	28.7	1.6	37.2	6	17.2	8	26	0	22.2	73	86	-37	69	6	3	0	0	2.7	18	9.8	SE	14	16	6	8	4.7	76
SAN ANGELO	580	947.2	1012.1	34.4	21.4	27.9	0.4	37.8	27+	17.2	8	26	0	16.7	54	12	-36	6	3	4	0	0	3.4	14	11.2	27	25	17	9	4	4.1	
SAN ANTONIO	240	986.5	1013.8	32.3	22.6	27.5	-0.4	35.0	7	16.1	5	21	0	21.1	71	57	-13	37	8	7	0	0	3.4	15	13.0	17	22	6	14	10	6.0	57
VICTORIA	32	1010.5	1014.5	32.2	23.3	27.8	0.0	36.1	7	20.0	5	20	0	22.2	76	310	226	236	5	6	0	0	2.8	14	17.0Y	NE	1	7	14	9	5.5	
WACO	153	996.6	1014.2	35.3	23.1	29.2	1.5	37.8	9	15.6	8	29	0	21.1	66	20	-50	11	7	3	0	0	3.4	16	12.5	21	23	12	8	10	4.8	
WICHITA FALLS	303	977.0	1012.6	35.6	20.7	28.2	0.8	38.3	17	12.8	8	27	0	18.3	62	64	-22	23	8	5	0	0	4.1	17	14.3	31	25	16	10	4	3.6	
UTAH																																
MILFORD	1533	845.9	1011.5	31.4	9.3	20.4	1.9	35.6	24	3.9	11	14	0			5	-9	3	3		0	0			17.4	SW	9	13	13	4	3.8	79
SALT LAKE CITY	1286	870.0	1010.4	31.2	14.6	22.9	3.9	35.0	26+	10.6	11	13	0	6.1	37	2	-31	2	1	6	0	0	0.8	19	17.0	S	9	12	15	3	4.0	90
VERMONT																																
BURLINGTON	101	999.0	1011.2	23.4	12.9	18.2	-0.3	32.2	28	5.6	9	1	0	12.2	70	52	-36	10	18	5	0	0	0.7	26	13.0	S	1	2	7	21	7.9	45
VIRGINIA																																
LYNCHBURG	279	981.0		27.3	15.0	21.2	-1.4	31.7	29	4.4	8	0	0			86	-1	24	14		0	0	1.3	27	20.1	W	17	4	16	10	6.2	63
NORFOLK	7	1012.9	1014.0	28.7	18.3	23.5	-0.1	36.1	28	12.8	8	7	0	16.7	68	61	-31	21	10	5	0	0	0.9	25	20.6	30	6	9	10	11	5.7	55
RICHMOND	50	1007.5	1013.6	30.1	15.5	22.8	-0.7	36.1	28	6.7	8	10	0	16.1	68	32	-58	11	8	4	0	0	1.1	27	11.2	NW	9+	4	16	10	6.3	70
ROANOKE	350	973.2	1014.6	28.2	15.2	21.7	-0.3	32.8	26+	3.9	8	7	0	13.9	65	61	-28	19	15	5	0	0	1.9	29	13.4	31	9	4	9	17	7.0	
WALLOPS ISLAND	3			25.2	16.9	21.1	-0.8	33.3	19	8.9	8	3	0			119	31	46	8		0	0			20.6Y	W	6					
WASHINGTON																																
OLYMPIA	59	1011.5	1018.7	22.6	8.3	15.4	0.5	31.1	17+	3.3	10+	0	0	9.4	72	16	-24	13	3	0	0	0	1.2	22	8.9	22	7+	5	16	9	6.5	
QUILLAYUTE	55	1012.2	1019.7	17.7	8.3	13.0	0.1	28.9	5	1.1	2	0	0	9.4	82	53	-36	22	12	0	0	0	1.1	26	7.6	S	21	3	6	21	8.1	38
SEATTLE U	6			21.1	11.6	16.3	0.1	27.8	17	8.3	9	0	0			15	-25	11	4		0	0			13.9Y	S	21					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1002.4	1018.7	22.6	11.9	17.2	1.8	30.6	17	6.7	2	0	0	8.9	61	14	-25	14	2	0	0	0	1.1	25	9.4	SW	1	5	15	10	6.4	59
SPOKANE	718	931.6	1014.2	25.7	10.9	18.3	1.9	32.2	7	2.2	2	1	0	6.1	49	37	2	29	7	3	0	0	1.7	22	16.1	W	7	5	13	12	6.2	70
STAMPEDE PASS R	1206	881.8		16.6	6.1	11.4	1.8	26.7	6	0.6	9+	0	0			45	-55	21	8		43	25						5	14	11	6.5	
WALLA WALLA U	289			29.4	14.8	22.1	2.6	35.6	7	7.8	2	10	0			9	-21	7	2		0	0			9.4	SW	28	12	12	6	6.7	78
YAKIMA	321	976.6	1014.4	29.0	11.8	20.4	2.4	35.6	7	1.7	2	9	0	6.1	41	12	-7	11	3	1	0	0	2.2	31	11.6	30	1	11	11	8	5.0	
WEST INDIES																																
SAN JUAN P.R.	4	1015.2	1017.7	30.9	24.4	27.7	0.8	33.3	7	22.8	13+	2	0	22.8	76	38	-105	11	11	0	0	0	4.6	8	12.5	E	18	3	23	4	5.6	74
WEST VIRGINIA																																
BECKLEY	763	928.9	1015.7	22.7	12.3	17.5	-2.1	27.8	30	1.1	8	0	0	12.8	77	144	36	27	18	8	0	0	2.0	25	16.5	27	27	2	10	18	7.8	
CHARLESTON	286	981.4	1015.0	26.0	14.6	20.3	-1.9	31.1	30+	2.8	8	0	0	13.3	67	151	67	49	14	7	0	0	1.3	26	12.1	24	27	3	11	16	7.3	
ELKINS	594	945.5		24.5	8.8	16.7	-2.1	29.4	30+	-3.9	8	0	2			129	8	48	14		0	0						1	12	17	7.8	
HUNTINGTON	252	985.1	1014.7	26.1	15.1	20.6	-1.8	30.6	30+	4.4	10	0	0	14.4	71	119	34	31	15	9	0	0	0.9	25	11.2	34	6	1	8	21	8.0	
PARKERSBURG U	187			26.2	14.3	20.2	-2.1	31.1	26	4.4	8	0	0			152	50	73	12		0	0			17.9	NW	25+					51
WISCONSIN																																
GREEN BAY	208	988.5	1013.9	24.1	11.2	17.7	-0.4	32.2	27	1.7	9	1	0	11.1	69	58	-29	23	11	5	0	0	0.8	27	15.6	W	30	6	12	12	6.3	68
LA CROSSE	198	989.8	1014.1	25.9	14.0	20.0	-0.3	34.4	27	6.7	9	4	0	14.4	72	89	-24		13	9	0		0.6	23								
MADISON	262	983.1	1014.1	25.7	10.8	18.3	-0.5	33.9	24	1.1	9	4	0	11.7	67	67	-43	22	11	10	0	0	0.8	26	16.1	N	5	7	6	17	6.6	70
MILWAUKEE	205	989.5	1014.4	22.2	11.7	16.9	-1.1	32.8	4	3.9	10+	1	0	12.2	75	147	56	55	10	7	0	0	0.7	32	16.1	NW	5	8	8	14	6.2	66
WYOMING																																
CASPER	1627	838.1	1011.9	29.7	11.8	20.8	4.2	33.9	25	6.7	11+	7	0	5.6	43	5	-32	3	5	8	0	0	0.2	32	17.0	29	20	10	16	4	4.5	
CHEYENNE	1867	813.4	1012.4	25.8	11.1	18.4	2.2	31.7	4	7.2	30+	0	0	6.1	50	62	1	23	9	13	0	0	1.0	19	14.3	NE	18	6	15	9	5.9	57
LANDER	1696	830.3	1012.3	28.3	11.9	20.2	3.9	33.9	25	7.2	21	3	0	3.9	39	17	-32	10	5	10	0	0	1.7	26	21.0	NW	5	10	15	5	5.1	78
SHERIDAN	1208	879.1	1014.0	26.6	10.6	18.6	2.4	32.8	25	5.6	3	1	0			53	-23	19	10	15	0	0	0.4	27	12.1	S	13+	5	16	9	5.9	65

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1976-1977

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
BIRMINGHAM	0	0	7	241	580	732	1026	566	252	73	5	0	3482	2844
HUNTSVILLE	0	0	19	306	658	766	1120	628	301	105	12	0	3915	3302
MOBILE	0	0	0	149	430	520	738	355	141	28	0	0	2361	1684
MONTGOMERY	0	0	0	180	502	657	894	501	216	53	0	0	3003	2269
ALASKA														
ANCHORAGE	184	262	521	972	1028	1294	1017	897	1241	872	554	208	9050	10911
ANNETTE	216	194	283	550	666	787	856	591	786	604	462	344	6339	7053
BARROW	816	844	976	1587	1873	2532	2269	2285	2711	2141	1419	922	20375	20265
BARTER ISLAND	820	779	935	1635	1797	2710	2334	2306	2831	2080	1348	908	20483	19994
BETHEL	309	328	598	1075	1414	1808	1335	1291	1869	1533	906	363	12829	13203
BETTLES	219	204	613	1420	1575	2310	1848	1682	2191	1510	665	196	14433	15925
BIG DELTA	98	189	540	1229	1247	1884	1478	1277	1729	1026	528	184	11409	13698
COLD BAY	463	434	585	797	1029	1134	914	874	1057	1006	789	456	9538	9865
FAIRBANKS	116	188	583	1269	1466	2136	1709	1574	1871	1107	500	155	12674	14345
GULKANA	222		641	1093	1310	1874	1507	1242	1569	977	689	355		13938
HOMER	342	376	541	875	880	1033	856	816	1171	890	712	409	8901	10364
JUNEAU	280	275	427	679	717	938	918	690	893	673	531	320	7341	9007
KING SALMON	359	362	585	1032	1218	1413	941	969	1427	1173	783	431	10693	11582
KODIAK	308	292	475	787	782	1013	861	803	1031	899	710	468	8429	8860
KOTZEBUE	430	296	606	1237	1586	2152	1610	1701	2436	1843	1063	627	15587	16039
MC GRATH	193	269	617	1301	1612	2204	1683	1633	2002	1403	729	234	13880	14487
NOME	502	417	591	1100	1458	1725	1255	1338	2173	1667	988	589	13803	14325
ST. PAUL ISLAND	610	532	649	838	1006	1280	1059	1048	1291	1156	889	642	11000	11119
SUMMIT	368	383	718											
TALKEETNA	179	265	572	1091	1105	1409	1159	1034	1509	1020	669	256	10268	11708
UNALAKLEET	341	309	557	1134	1424	1791	1363	1329	1952	1653	886	489	13228	14027
VALDEZ	285	346	558	873	934	1137	1060	920	1076	858	680	403	9130	10545
YAKUTAT	321	350	516	755	730	959	888	752	969	795	666	411	8112	9533
ARIZONA														
FLAGSTAFF	17	71	230	553	757	1027	1177	858	970	603	540	102	6905	7322
PHOENIX	0	0	0	2	112	285	339	122	149	33	0	0	1042	1552
TUCSON	0	0	0	45	178	390	435	221	287	65	9	0	1630	1752
WINSLOW	0	0	39	378	711	1041	1186	789	711	319	189	0	5363	4733
YUMA	0	0	0	1	72	248	276	106	159	23	0	0	885	1005
ARKANSAS														
FORT SMITH	0	0	20	317	682	837	1186	602	352	88	9	0	4093	3336
LITTLE ROCK	0	0	1	257	567	710	1041	502	265	70	10	0	3423	3354
CALIFORNIA														
BAKERSFIELD	0	0	0	13	193	424	559	229	333	31	37	0	1819	2185
BISHOP	1	5	24	227	432	798	829	524	682	245	304	2	4073	4313
BLUE CANYON	21	199	156	269	371	589	746	559	909	447	701	99	5066	5704
EUREKA U	226	213	258	324	375	535	537	400	577	468	415	317	4645	4679
FRESNO	0	1	5	63	342	566	636	313	386	42	98	0	2452	2650
LONG BEACH	0	0	0	0	42	180	224	157	285	74	72	1	1035	1606
LOS ANGELES	0	0	0	5	62	145	227	129	272	111	115	13	1079	1819
LOS ANGELES U	0	0	0	0	62	138	215	86	247	57	108	1	914	1245
MT SHASTA R	23	142	126	378	598	848	1053	667	834	487	562	72	5790	5890
OAKLAND	46	20	51	79	206	469	478	296	350	198	210	96	2499	2909
RED BLUFF	0	0	0	34	200	468	617	297	355	40	126	0	2137	2688
SACRAMENTO	0	0	1	44	252	567	650	345	424	92	187	9	2571	2843
SANDBERG R	6	89	117	183	319	575	767	448	783	323	541	60	4211	4427
SAN DIEGO	0	0	0	0	39	129	143	94	224	103	88	3	823	1507
SAN FRANCISCO	72	38	79	127	231	494	549	326	432	278	278	141	3045	3042
SAN FRANCISCO U	173	86	114	102	152	315	463	242	359	261	294	233	2794	3080
SANTA MARIA	44	30	23	97	184	402	427	282	487	297	298	125	2696	3053
STOCKTON	0	0	0	29	255	581	650	324	348	41	100	0	2328	2806
COLORADO														
ALAMOSA	24	132	314	779	1104	1596	1598	1155	1097	655	440	104	8998	8609
COLORADO SPRINGS	0	11	191	593	859	988	1181	837	858	494	192	5	6209	6473
DENVER	0	7	142	509	759	907	1105	749	771	414	137	0	5500	6016
GRAND JUNCTION	0	0	41	421	769	1153	1267	775	743	250	94	0	5513	5605
PUEBLO	0	2	106	507	861	986	1151	747	708	318	44	1	5431	5394
CONNECTICUT														
BRIDGEPORT	0	7	59	356	673	1079	1274	940	710	470	160	62	5790	5461
HARTFORD	0	16	118	467	794	1242	1429	1038	684	419	130	45	6382	6350
DELAWARE														
WILMINGTON	0	4	44	387	734	1047	1361	884	546	333	107	32	5479	4940
DIST.OF COLUMBIA														
WASHINGTON DULLES	0	8	65	447	793	1038	1361	838	508	303	90	41	5492	5010
WASHINGTON NATIONAL	0	0	11	306	652	907	1221	729	389	188	32	3	4438	4211
FLORIDA														
APPALACHICOLA U	0	0	0	86	307	411	617	409	121	35	0	0	1986	1361
DAYTONA BEACH	0	0	0	11	168	209	444	273	53	20	0	0	1178	897
FORT MYERS	0	0	0	2	62	124	281	132	15	0	0	0	616	457
JACKSONVILLE	0	0	0	87	327	376	643	414	102	46	0	0	1995	1327
KEY WEST	0	0	0	0	0	10	65	20	0	0	0	0	95	64
LAKELAND U	0	0	0	10	105	199	400	193	28	5	0	0	940	678
MIAMI	0	0	0	0	9	32	165	62	3	0	0	0	271	206
ORLANDO	0	0	0	4	118	197	440	218	41	8	0	0	1026	733
PENSACOLA	0	0	0	122	402	484	717	364	144	29	0	0	2262	1578
TALLAHASSEE	0	0	0	100	359	456	649	434	116	46	0	0	2160	1563
TAMPA	0	0	0	11	122	208	422	214	28	6	0	0	1011	718
WEST PALM BEACH	0	0	0	0	15	68	220	93	8	0	0	0	404	299
GEORGIA														
ATHENS	0	0	6	234	532	735	1040	604	248	86	10	0	3495	2975
ATLANTA	0	0	10	277	618	775	1099	640	300	102	11	0	3832	3095
AUGUSTA	0	0	0	191	490	635	906	565	206	65	13	0	3071	2547
COLUMBUS	0	0	0	187	483	615	874	501	183	51	0	0	2894	2378
MACON	0	0	0	163	455	593	867	506	190	52	0	0	2826	2240
ROME	0	0	8	262	634	787	1110	643	305	93	19	0	3861	3342
SAVANNAH	0	0	0	142	405	490	771	437	152	42	2	0	2441	1952

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1976-1977

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
IDAHO														
BOISE	3	36	76	434	720	1097	1418	868	772	342	358	7	6131	5833
LEWISTON	3	17	14	331	638	907	1116	653	701	300	266	10	4956	5464
POCATELLO	1	34	143	561	811	1127	1478	1043	926	445	406	6	6981	7063
ILLINOIS														
CAIRO U	0	0	5	309	724	898	1312	716	312	110	13	0	4399	3833
CHICAGO O HARE	0	9	119	522	973	1408	1679	1060	616	332	115	41	6874	6497
CHICAGO MIDWAY	0	7	88	520	960	1388	1695	1058	622	344	107	52	6841	6127
MOLINE	0	5	123	569	1038	1403	1755	1059	656	286	54	15	6963	6395
PEORIA	0	9	106	556	981	1357	1747	1061	623	273	60	17	6790	6098
ROCKFORD	2	17	174	615	1100	1545	1830	1158	697	318	73	42	7571	6845
SPRINGFIELD	0	3	84	497	905	1260	1693	989	532	222	44	12	6241	5558
INDIANA														
EVANSVILLE	0	0	27	391	786	1021	1549	867	428	162	32	4	5267	4624
FORT WAYNE	0	11	121	540	938	1322	1723	1108	662	322	80	42	6869	6209
INDIANAPOLIS	0	2	79	503	904	1249	1693	1025	567	276	45	19	6362	5577
SOUTH BEND	0	19	139	525	949	1302	1628	1063	640	327	85	68	6745	6462
IOWA														
BURLINGTON	0	4	101	553	971	1330	1724	1020	622	262	51	15	6653	6149
DES MOINES	0	1	76	527	964	1333	1700	981	624	234	25	2	6467	6710
DUBUQUE	0	14	180	614	1106	1554	1909	1155	722	343	93	40	7730	7277
SIOUX CITY	1	0	108	620	1062	1411	1738	1019	745	296	24	2	7026	6953
WATERLOO	2	26	178	664	1142	1615	2017	1162	764	399	86	22	8077	7415
KANSAS														
CONCORDIA	0	0	57	461	868	1043	1424	769	567	240	15	0	5444	5623
DODGE CITY	0	0	48	464	753	879	1274	645	529	198	8	0	4798	5046
GOODLAND	0	3	121	587	884	987	1296	776	803	387	100	0	5944	6119
TOPEKA	0	0	45	471	881	1126	1537	767	469	180	11	0	5487	5243
WICHITA	0	0	38	409	794	966	1253	646	456	170	12	0	4744	4687
KENTUCKY														
COVINGTON	0	4	72	498	893	1157	1640	980	571	276	67	36	6194	5070
LEXINGTON	1	4	64	474	829	1050	1457	836	444	208	52	19	5438	4729
LOUISVILLE	0	0	29	393	757	982	1435	780	421	183	36	7	5023	4640
LOUISIANA														
ALEXANDRIA	0	0	0	188	453	548	806	362	163	23	0	0	2543	2200
BATON ROUGE	0	0	0	140	401	464	710	331	141	18	0	0	2205	1670
LAKE CHARLES	0	0	0	137	376	419	671	300	134	11	0	0	2048	1498
NEW ORLEANS	0	0	0	93	375	438	664	318	117	18	0	0	2023	1465
SHREVEPORT	0	0	0	199	471	574	851	399	188	46	0	0	2728	2167
MAINE														
CARIBOU	84	132	405	793	1175	1765	1828	1453	1002	850	406	203	10096	9632
PORTLAND	45	73	229	660	858	1404	1559	1199	888	674	354	184	8127	7498
MARYLAND														
BALTIMORE	0	0	34	377	716	1001	1296	790	469	245	62	18	5008	4729
MASSACHUSETTS														
BLUE HILL OBS R	7	37	135	522	826	1257	1428	1045	710	503	214	92	6776	6335
BOSTON	1	10	55	393	688	1108	1290	956	623	414	158	43	5739	5621
WORCESTER	17	46	192	571	905	1331	1508	1115	798	571	244	115	7413	6848
MICHIGAN														
ALPENA	27	70	270	663	1031	1547	1696	1270	892	643	294	206	8609	8518
DETROIT	0	8	106	463	831	1257	1534	1040	642	363	110	71	6425	6228
DETROIT METRO	1	15	133	540	938	1341	1609	1106	721	395	122	85	7006	6419
FLINT	1	33	169	559	943	1467	1671	1186	794	468	152	118	7561	7041
GRAND RAPIDS	0	32	185	591	999	1415	1616	1177	765	401	106	91	7378	6801
HOUGHTON LAKE	24	92	296	698	1094	1582	1743	1315	932	544	199	159	8678	8347
LANSING	4	57	210	619	994	1449	1666	1164	761	439	137	99	7599	6904
MARQUETTE U	36	79	293	668	1069	1556	1695	1253	946	630	239	193	8657	8351
MUSKEGON	5	43	219	581	948	1371	1564	1200	807	436	145	117	7436	6890
SAULT STE MARIE	76	90	349	728	1121	1706	1818	1420	1119	744	318	305	9794	9193
MINNESOTA														
DULUTH	35	112	310	860	1280	1871	2017	1334	1033	612	242	170	9876	9756
INTERNATIONAL FALLS	40	94	362	883	1359	2112	2195	1461	1089	658	183	114	10550	10547
MINNEAPOLIS	0	4	162	632	1092	1590	2005	1180	844	365	75	17	7966	8159
ROCHESTER	1	26	225	710	1195	1715	2071	1208	808	371	90	37	8457	8227
ST CLOUD	7	37	250	766	1249	1787	2085	1283	928	419	112	39	8962	8868
MISSISSIPPI														
JACKSON	0	0	0	197	528	614	913	435	196	43	1	0	2927	2300
MERIDIAN	0	0	3	235	553	649	932	487	231	53	4	0	3147	2388
MISSOURI														
COLUMBIA REGIONAL	0	0	43	487	898	1169	1587	891	548	209	40	0	5872	5078
KANSAS CITY	0	0	45	469	865	1108	1527	832	521	192	22	0	5581	5161
ST JOSEPH	0	0	48	450	906	1141	1558	839	513	205	29	0	5689	5440
ST LOUIS	0	0	24	456	832	1125	1541	839	471	190	36	3	5517	4750
SPRINGFIELD	0	0	41	415	797	975	1421	752	476	173	27	0	5077	4570
MONTANA														
BILLINGS	0	6	131	582	884	1030	1451	759	896	437	258	28	6462	7265
GLASGOW	9	10	185	698	1151	1421	1917	1074	967	497	233	59	8221	8969
GREAT FALLS	3	20	144	572	844	1031	1339	715	953	529	419	70	6639	7652
HAVRE	4	13	146	663	1037	1179	1714	860	929	521	263	50	7379	8687
HELENA	15	45	219	615	928	1120	1449	862	1005	535	443	90	7326	8190
KALISPELL	64	104	244	723	1002	1162	1405	949	935	553	443	114	7698	8554
MILES CITY	1	3	140	642	1061	1219	1774	923	888	415	171	3	7240	7889
MISSOULA	25	89	231	647	974	1253	1431	918	950	536	450	76	7580	7931
NEBRASKA														
GRAND ISLAND	0	0	95	551	944	1139	1461	861	729	280	15	0	6075	6420
LINCOLN	0	0	83	553	979	1254	1604	927	659	256	11	0	6326	6218
NORFOLK	0	1	108	587	1018	1287	1624	951	733	287	6	0	6602	6981
NORTH PLATTE	0	13	178	608	1028	1133	1493	920	858	395	81	2	6709	6743
OMAHA	0	0	61	522	947	1265	1598	883	579	219	10	1	6085	6601
SCOTTSBLUFF	0	8	120	542	903	1011	1362	789	826	360	84	4	6009	6774
VALENTINE	5	3	151	613	1094	1255	1672	952	990	431	101	8	7275	7300

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1976-1977

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEVADA														
ELKO	12	80	145	563	810	1154	1262	816	927	464	441	16	6690	7[illegible]83
ELY	31	130	245	641	842	1162	1324	959	1126	596	614	91	7761	7814
LAS VEGAS	0	0	0	39	212	569	593	297	374	45	56	0	2185	2601
RENO	15	116	116	419	670	1062	1002	695	828	405	509	30	5867	6022
WINNEMUCCA	8	45	81	461	691	1104	1176	734	855	430	450	15	6050	6629
NEW HAMPSHIRE														
CONCORD	37	84	234	615	992	1506	1683	1242	870	594	259	119	8235	7360
MT WASHINGTON OBS	547	534	781	1184	1617	2017	2114	1670	1445	1275	887	684	14755	13878
NEW JERSEY														
ATLANTIC CITY	0	17	71	424	757	1075	1398	895	587	380	145	42	5791	4946
ATLANTIC CITY U	0	3	38	366	696	936	1253	816	590	384	154	36	5272	4693
NEWARK	0	4	56	381	745	1107	1361	895	563	352	89	24	5577	5034
TRENTON U	0	5	58	392	719	1054	1333	845	533	337	100	31	5407	4947
NEW MEXICO														
ALBUQUERQUE	0	0	35	367	726	985	1084	675	669	250	61	0	4852	4292
CLAYTON	0	2	80	497	790	884	1079	696	693	355	94	0	5170	5207
ROSWELL	0	0	18	275	663	789	811	463	393	109	0	0	3521	3697
NEW YORK														
ALBANY	7	40	196	564	895	1345	1526	1127	764	545	205	85	7299	6888
BINGHAMTON	31	62	241	653	1013	1382	1636	1137	831	537	237	130	7890	7285
BUFFALO	15	35	180	573	921	1328	1580	1123	775	544	207	90	7371	6927
NEW YORK U	0	4	44	373	692	1082	1322	877	560	354	100	27	5435	4848
NEW YORK KENNEDY	0	6	53	373	726	1076	1326	916	651	418	147	34	5726	5184
NEW YORK LA GUARDIA	0	2	36	324	654	1061	1316	883	591	377	115	28	5387	4909
ROCHESTER	11	27	173	538	879	1279	1524	1103	777	523	204	89	7127	6719
SYRACUSE	24	45	179	556	869	1303	1520	1086	767	511	209	111	7180	6678
NORTH CAROLINA														
ASHEVILLE	2	3	83	411	706	884	1239	768	437	198	66	25	4822	4237
CAPE HATTERAS R	0	0	1	135	448	566	900	575	309	104	27	0	3065	2731
CHARLOTTE	0	0	5	299	621	799	1075	636	306	120	36	7	3904	3218
GREENSBORO	0	1	19	370	687	860	1184	723	358	159	42	11	4414	3825
RALEIGH	0	0	7	302	668	857	1183	715	358	132	49	14	4285	3514
WILMINGTON	0	0	0	172	435	569	899	541	241	78	27	1	2983	2433
NORTH DAKOTA														
BISMARCK	11	6	193	726	1152	1551	2063	1147	956	473	164	45	8487	9044
FARGO	13	9	227	788	1247	1797	2119	1327	1015	466	74	30	9112	9271
WILLISTON	10	11	203	740	1215	1563	2024	1112	959	469	149	46	8501	9161
OHIO														
AKRON	15	56	171	564	948	1272	1656	1057	627	354	105	82	6907	6224
CINCINNATI ABBE OB	0	2	48	442	810	1082	1536	918	510	255	47	23	5673	4844
CLEVELAND	0	25	150	519	932	1286	1672	1113	689	423	166	115	7090	6154
COLUMBUS	1	25	118	537	925	1241	1659	1071	601	324	91	64	6657	5702
DAYTON U	0	25	121	535	886	1191	1651	1042	600	309	63	36	6459	5641
MANSFIELD	0	56	185	606	1006	1369	1743	1155	708	421	128	112	7497	5818
TOLEDO	1	33	162	596	976	1393	1708	1135	718	381	135	91	7329	6381
YOUNGSTOWN	18	59	183	584	969	1321	1692	1119	703	449	148	127	7372	6426
OKLAHOMA														
OKLAHOMA CITY	0	0	19	306	629	805	1103	529	338	107	7	0	3843	3695
TULSA	0	0	16	317	648	858	1173	511	309	99	1	0	3932	3680
OREGON														
ASTORIA	117	105	128	361	503	660	774	504	628	475	453	238	4946	5295
BURNS U	25	150	154	512	717	1083	1413	825	928	493	551	51	6902	7212
EUGENE	10	38	58	340	518	840	801	567	615	422	417	126	4752	4739
MEDFORD	9	31	48	338	636	1023	952	581	675	358	359	17	5027	4930
PENDLETON	4	42	31	363	660	896	1192	653	639	299	301	26	5106	5240
PORTLAND	15	41	47	319	536	783	901	564	596	358	340	68	4568	4792
SALEM	43	63	98	395	565	807	842	569	629	424	400	108	4943	4852
SEXTON SUMMIT R	86	203	161	301	441	644	766	592	928	510	640	151	5423	6430
PENNSYLVANIA														
ALLENTOWN	1	9	101	455	817	1174	1428	950	604	384	127	35	6085	5827
ERIE	28	42	163	519	920	1269	1620	1116	751	519	249	126	7322	6851
HARRISBURG	0	5	75	418	756	1075	1387	966	588	340	106	32	5748	5224
PHILADELPHIA	0	2	42	387	743	1069	1390	873	505	258	73	36	5378	4865
PITTSBURGH	15	59	159	587	953	1268	1655	1060	658	436	138	102	7090	5930
PITTSBURGH U	2	18	101	496	869	1171	1549	953	563	351	94	63	6230	5278
SCRANTON	8	25	155	519	834	1297	1546	1058	756	487	206	90	6981	6277
WILLIAMSPORT	0	12	121	478	855	1201	1547	1008	624	366	119	38	6369	5981
RHODE ISLAND														
BLOCK ISLAND	3	14	87			1088	1306	1014	764	549	278	70		5771
PROVIDENCE	2	23	124	501	806	1219	1361	983	653	434	176	51	6333	5972
SOUTH CAROLINA														
CHARLESTON	0	0	0	159	418	501	811	516	186	58	17	0	2666	2146
CHARLESTON U	0	0	0		356	452	757	441	150	35	3	0		1904
COLUMBIA	0	0	0	219	512	645	901	525	211	69	20	0	3102	2598
GRNVLLE-SPRTNBRG	0	0	11	297	605	773	1057	626	319	117	19	0	3824	3163
SOUTH DAKOTA														
ABERDEEN	3	2	165	676	1149	1557	1973	1135	968	395	83	23	8129	8617
HURON	5	4	173	706	1181	1514	1849	1101	958	374	61	12	7938	8055
RAPID CITY	3	6	132	606	991	1177	1616	846	877	459	165	17	6895	7324
SIOUX FALLS	1	0	142	643	1114	1495	1867	1097	891	341	38	4	7633	7838
TENNESSEE														
BRISTOL	0	0	46	409	776	973	1321	845	459	184	61	21	5095	4306
CHATTANOOGA	0	0	11	269	661	851	1123	679	353	111	17	0	4075	3505
KNOXVILLE	0	0	19	320	651	845	1166	658	319	110	33	2	4123	3478
MEMPHIS	0	0	0	231	581	708	1056	547	212	61	4	0	3400	3227
NASHVILLE	0	0	31	349	718	872	1250	679	350	129	28	1	4407	3696
OAK RIDGE	1	0	45	389	752	936	1242	788	437	169	60	23	4842	3944

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1976-1977

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
TEXAS														
ABILENE	0	0	11	276	575	690	901	393	262	89	0	0	3197	2610
AMARILLO	0	0	59	464	790	846	1075	592	499	215	22	0	4562	4183
AUSTIN	0	0	0	170	402	506	719	308	148	20	0	0	2273	1737
BROWNSVILLE	0	0	0	21	177	256	319	123	43	3	0	0	942	650
CORPUS CHRISTI	0	0	0	59	253	311	455	192	65	6	0	0	1341	930
DALLAS FT WORTH	0	0	0	214	459	614	931	431	241	37	0	0	2927	2382
DEL RIO	0	0	0	127	348	481	568	269	122	13	0	0	1928	1523
EL PASO	0	0	7	214	601	709	623	492	469	138	3	0	3256	2678
GALVESTON	0	0	0	96	313	373	563	274	102	3	0	0	1724	1224
HOUSTON INTERCON	0	0	0	173	398	484	687	312	166	25	0	0	2245	1434
LUBBOCK	0	0	30	333	665	760	939	520	397	153	1	0	3798	3545
MIDLAND	0	0	10	220	545	635	755	409	320	117	0	0	3011	2621
PORT ARTHUR	0	0	0	149	375	439	626	268	110	16	0	0	1983	1518
SAN ANGELO	0	0	3	220	518	595	757	377	227	45	0	0	2742	2240
SAN ANTONIO	0	0	0	160	382	461	643	336	144	32	0	0	2158	1570
VICTORIA	0	0	0	111	325	398	585	246	82	8	0	0	1755	1227
WACO	0	0	0	205	446	596	827	345	175	21	2	0	2617	2058
WICHITA FALLS	0	0	7	265	552	731	1023	459	281	80	1	0	3399	2904
UTAH														
MILFORD	0	[illegible]	84	539	814	1183	1217	899	967	462	391	13	6572	6412
SALT LAKE CITY	0	7	37	432	689	1096	1175	813	838	333	304	0	5724	5983
WENDOVER	0	7	16	428										
VERMONT														
BURLINGTON	20	68	254	654	954	1505	1667	1240	842	590	223	89	8106	7876
VIRGINIA														
LYNCHBURG	0	[illegible]	34	370	719	947	1294	783	417	217	58	26	4867	4233
NORFOLK	0	0	0	245	566	726	1104	657	330	150	40	1	3819	3488
RICHMOND	0	1	15	332	660	869	1227	680	366	176	42	7	4375	3939
ROANOKE	0	[illegible]	47	452	735	945	1275	786	385	203	56	23	4910	4307
WALLOPS ISLAND	0	1	8	306	678	834	1210	819	540	271	107	21	4795	4240
WASHINGTON														
OLYMPIA	104	127	177	470	649	798	902	547	660	438	415	158	5445	5530
QUILLAYUTE	196	207	207	427	569	647	784	554	703	530	499	283	5606	5951
SEATTLE	32	66	96	336	507	635	780	483	617	374	346	105	4377	4727
SEATTLE-TACOMA	24	52	81	307	510	625	786	451	591	335	320	79	4161	5185
SPOKANE	20	71	74	556	871	1089	1324	832	824	436	409	66	6572	6835
STAMPEDE PASS R	318	355	303	646	878	1035	1166	910	1082	701	771	373	8538	9400
WALLA WALLA U	3	22	22	339	650	896	1202	602	598	250	261	15	4860	4835
YAKIMA	26	53	61	472	769	1081	1248	730	684	323	371	34	5852	6009
WEST VIRGINIA														
BECKLEY	24	49	151	566	914	1094	1496	978	565	310	113	97	6357	5615
CHARLESTON	0	9	84	475	814	1047	1432	888	482	242	81	52	5606	4590
ELKINS	24	44	152	564	968	1159	1548	1021	600	377	151	136	6744	5975
HUNTINGTON	0	1	76	460	765	1003	1397	829	475	200	67	45	5318	4624
PARKERSBURG U	0	5	85	478	806	1104	1466	916	508	275	82	47	5772	4817
WISCONSIN														
GREEN BAY	2	56	255	667	1152	1730	1918	1254	861	500	131	113	8639	8098
LA CROSSE	3	14	176	624	1104	1613	1923	1200	770	344	66	36	7873	7417
MADISON	4	40	236	656	1102	1602	1898	1188	772	409	110	95	8112	7730
MILWAUKEE	2	21	124	589	1056	1504	1754	1152	790	490	173	151	7806	7444
WYOMING														
CASPER	3	14	199	654	913	1133	1385	949	1040	549	298	12	7149	7555
CHEYENNE	11	44	224	664	937	1059	1314	894	1014	602	352	44	7159	7255
LANDER	1	16	182	657	933	1220	1514	940	1063	543	361	22	7452	7869
SHERIDAN	1	20	186	696		1154	1520	926	989	527	307	53		7708

COOLING DEGREE DAYS

(Base 65°F.)

JUNE 1977

State and station	Current season		
	This month	Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	450	802	669
HUNTSVILLE	372	673	604
MOBILE	543	1086	989
MONTGOMERY	533	981	801
ALASKA			
ANCHORAGE	0	0	0
ANNETTE	0	0	[illegible]
BARROW	0	0	[illegible]
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES	0	0	6
BIG DELTA	0	0	20
COLD BAY	0	0	0
FAIRBANKS	0	0	31
GULKANA	0	0	9
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	[illegible]	0
MC GRATH	0	0	6
NOME	0	0	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	0	6
UNALAKLEET	0	0	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	28	28	15
PHOENIX	797	1487	1119
TUCSON	597	933	905
WINSLOW	269	289	279
YUMA	731	1258	1368
ARKANSAS			
FORT SMITH	460	770	628
LITTLE ROCK	455	816	616
CALIFORNIA			
BAKERSFIELD	577	817	610
BISHOP	281	304	256
BLUE CANYON	128	129	20
EUREKA U	0	0	0
FRESNO	451	573	442
LONG BEACH	124	174	158
LOS ANGELES	23	40	94
LOS ANGELES U	135	225	225
MT SHASTA R	106	106	36
OAKLAND	14	16	21
RED BLUFF	503	603	515
SACRAMENTO	230	261	309
SANDBERG R	150	161	86
SAN DIEGO	34	51	118
SAN FRANCISCO	10	10	18
SAN FRANCISCO U	1	1	5
SANTA MARIA	0	0	5
STOCKTON	356	457	314
COLORADO			
ALAMOSA	2	2	9
COLORADO SPRINGS	103	103	97
DENVER	214	227	110
GRAND JUNCTION	429	505	256
PUEBLO	283	341	232
CONNECTICUT			
BRIDGEPORT	70	94	128
HARTFORD	144	254	126
DELAWARE			
WILMINGTON	156	261	244
DIST.OF COLUMBIA			
WASHINGTON DULLES	147	263	245
WASHINGTON NATIONAL	289	525	404
FLORIDA			
APPALACHICOLA U	488	913	978
DAYTONA BEACH	527	1211	1082
FORT MYERS	479	1262	1483
JACKSONVILLE	499	977	952
KEY WEST	551	1941	2147
LAKELAND U	558	1378	1326
MIAMI	508	1653	1661
ORLANDO	534	1246	1271
PENSACOLA	519	1014	1031
TALLAHASSEE	455	914	977
TAMPA	567	1370	1345
WEST PALM BEACH	493	1551	1517
GEORGIA			
ATHENS	415	710	578
ATLANTA	367	592	514
AUGUSTA	461	821	705
COLUMBUS	502	977	771
MACON	520	977	856
ROME	398	675	507
SAVANNAH	517	1008	851
HAWAII			
HILO	343	1735	1321
HONOLULU	441	2117	1758
KAHULUI	352	1748	1567
LIHUE	357	1723	1533
IDAHO			
BOISE	170	200	108
LEWISTON	234	278	102
POCATELLO	129	130	49
ILLINOIS			
CAIRO U	438	877	603
CHICAGO O HARE	178	408	173
CHICAGO MIDWAY	201	484	244
MOLINE	173	399	257
PEORIA	179	397	282
ROCKFORD	120	331	190
SPRINGFIELD	217	531	337
INDIANA			
EVANSVILLE	323	648	438
FORT WAYNE	152	370	206
INDIANAPOLIS	212	486	290
SOUTH BEND	137	390	183
IOWA			
BURLINGTON	184	400	286
DES MOINES	298	518	250
DUBUQUE	126	255	154
SIOUX CITY	186	309	260
WATERLOO	145	261	181
KANSAS			
CONCORDIA	304	431	344
DODGE CITY	441	598	380
GOODLAND	206	222	205
TOPEKA	311	527	393
WICHITA	404	578	486
KENTUCKY			
COVINGTON	152	352	312
LEXINGTON	241	510	366
LOUISVILLE	281	579	376
LOUISIANA			
ALEXANDRIA	534	1077	774
BATON ROUGE	535	1064	983
LAKE CHARLES	499	1013	1034
NEW ORLEANS	528	1151	1030
SHREVEPORT	443	836	876
MAINE			
CARIBOU	24	76	8
PORTLAND	12	45	22
MARYLAND			
BALTIMORE	217	388	295
MASSACHUSETTS			
BLUE HILL OBS R	60	116	79
BOSTON	124	230	137
WORCESTER	44	87	74
MICHIGAN			
ALPENA	39	75	33
DETROIT	157	327	182
DETROIT METRO	107	240	165
FLINT	70	168	110
GRAND RAPIDS	85	241	141
HOUGHTON LAKE	46	107	59
LANSING	76	219	137
MARQUETTE U	24	68	15
MUSKEGON	42	141	100
SAULT STE MARIE	5	24	11
MINNESOTA			
DULUTH	24	36	14
INTERNATIONAL FALLS	26	91	30
MINNEAPOLIS	129	286	148
ROCHESTER	98	199	127
ST CLOUD	73	179	93
MISSISSIPPI			
JACKSON	508	970	840
MERIDIAN	517	840	821
MISSOURI			
COLUMBIA REGIONAL	261	415	371
KANSAS CITY	291	484	411
ST JOSEPH	315	490	394
ST LOUIS	302	604	461
SPRINGFIELD	332	511	395
MONTANA			
BILLINGS	160	167	67
GLASGOW	85	120	70
GREAT FALLS	86	86	36
HAVRE	103	107	65
HELENA	57	57	20
KALISPELL	17	19	9
MILES CITY	192	266	133
MISSOULA	36	37	18
NEBRASKA			
GRAND ISLAND	268	377	265
LINCOLN	289	427	313
NORFOLK	241	372	232
NORTH PLATTE	174	202	191
OMAHA	246	470	254
SCOTTSBLUFF	254	305	134
VALENTINE	203	252	152
NEVADA			
ELKO	152	155	28
ELY	24	24	22
LAS VEGAS	694	1004	891
RENO	141	147	46
WINNEMUCCA	188	192	61
NEW HAMPSHIRE			
CONCORD	64	126	57
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	120	188	193
ATLANTIC CITY U	105	148	148
NEWARK	191	326	244
TRENTON U	187	317	239
NEW MEXICO			
ALBUQUERQUE	324	368	364
CLAYTON	241	257	181
ROSWELL	505	808	514
NEW YORK			
ALBANY	79	153	141
BINGHAMTON	39	112	82
BUFFALO	78	158	93
NEW YORK U	[illegible]	324	256
NEW YORK KENNEDY	114	170	171
NEW YORK LA GUARDIA	166	269	245
ROCHESTER	88	187	125
SYRACUSE	47	131	121
NORTH CAROLINA			
ASHEVILLE	173	234	248
CAPE HATTERAS R	295	532	409
CHARLOTTE	319	562	513
GREENSBORO	275	503	428
RALEIGH	272	508	432
WILMINGTON	387	767	651
NORTH DAKOTA			
BISMARCK	72	145	97
FARGO	86	221	99
WILLISTON	96	170	73
OHIO			
AKRON	118	284	168
CINCINNATI ABBE OB	190	453	367
CLEVELAND	73	173	164
COLUMBUS	148	331	230
DAYTON U	167	395	268
MANSFIELD	72	174	220
TOLEDO	99	231	186
YOUNGSTOWN	[illegible]	198	131
OKLAHOMA			
OKLAHOMA CITY	445	661	545
TULSA	486	825	574
OREGON			
ASTORIA	0	[illegible]	0
BURNS U	87	90	30
EUGENE	10	10	25
MEDFORD	165	169	84
PENDLETON	152	171	106
PORTLAND	42	42	45
SALEM	19	19	26
SEXTON SUMMIT R	18	18	7
PACIFIC AREA			
GUAM TAGUAC R	459	2407	2429
JOHNSTON	436	2354	2313
KOROR R	532	3128	2973
KWAJALEIN	518	3093	3011
MAJURO	495	2906	2914
PAGO PAGO	474	2953	2726
PONAPE R	504	3065	2837
TRUK MOEN ISLAND	531	3084	2935
WAKE	524	2458	2455
YAP R	490	2956	2930
PENNSYLVANIA			
ALLENTOWN	155	271	194
ERIE	42	105	81
HARRISBURG	147	265	283
PHILADELPHIA	150	296	290
PITTSBURGH	75	175	180
SCRANTON	62	134	145
WILLIAMSPORT	106	215	180
RHODE ISLAND			
BLOCK ISLAND	33	36	25
PROVIDENCE	108	181	86
SOUTH CAROLINA			
CHARLESTON	493	918	730
CHARLESTON U	516	1035	833
COLUMBIA	407	830	733
GRNVLLE-SPRTNBRG	383	656	520
SOUTH DAKOTA			
ABERDEEN	109	203	120
HURON	176	269	160
RAPID CITY	143	168	125
SIOUX FALLS	197	309	175
TENNESSEE			
BRISTOL	213	361	335
CHATTANOOGA	384	647	537
KNOXVILLE	317	581	523
MEMPHIS	516	1024	692
NASHVILLE	371	709	549
OAK RIDGE	241	357	444
TEXAS			
ABILENE	496	797	838
AMARILLO	399	509	417
AUSTIN	526	985	1042
BROWNSVILLE	535	1516	1632
CORPUS CHRISTI	545	1312	1359
DALLAS FT WORTH	581	1073	823
DEL RIO	543	1068	1332
EL PASO	500	725	744
GALVESTON	488	1023	1083
HOUSTON INTERCON	487	929	1070
LUBBOCK	435	675	550
MIDLAND	522	911	771
PORT ARTHUR	562	1144	1027
SAN ANGELO	523	929	978
SAN ANTONIO	502	966	1114
VICTORIA	517	1123	1176
WACO	593	1080	971
WICHITA FALLS	537	829	841
UTAH			
MILFORD	131	133	98
SALT LAKE CITY	254	268	154
VERMONT			
BURLINGTON	86	168	84
VIRGINIA			
LYNCHBURG	184	356	331
NORFOLK	289	520	409
RICHMOND	258	494	405
ROANOKE	214	407	298
WALLOPS ISLAND	175	264	256
WASHINGTON			
OLYMPIA	14	14	14
QUILLAYUTE	1	1	0
SEATTLE	6	6	28
SEATTLE-TACOMA	26	26	11
SPOKANE	72	92	47
STAMPEDE PASS R	5	7	[illegible]
WALLA WALLA U	222	252	154
YAKIMA	153	158	98
WEST INDIES			
SAN JUAN P.R.	514	2637	2240
WEST VIRGINIA			
BECKLEY	60	130	132
CHARLESTON	165	381	338
ELKINS	55	88	109
HUNTINGTON	173	437	353
PARKERSBURG U	156	367	315
WISCONSIN			
GREEN BAY	81	173	88
LA CROSSE	132	318	182
MADISON	99	246	114
MILWAUKEE	81	158	88
WYOMING			
CASPER	150	150	60
CHEYENNE	59	59	45
LANDER	124	124	36
SHERIDAN	73	76	58

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama	2	2			5						1	5		1	1	[illegible]													
Alaska																													
Arizona												5				4	3												
Arkansas	2	2		2	4				5			5		1	1	4													
California *																													
Colorado	10	5		2	5			5	6			[illegible]	[illegible]			4													
Connecticut										1		4				5													
Delaware	1	1		1	5										1														
Florida	9	9			5						1	5		1	2	[illegible]													
Georgia	3	3			5			1	4	1	2	6	4	2	4	6	1												
Hawaii *																													
Idaho								3	5		3	[illegible]		1	2	4													
Illinois	8	1			6				[illegible]	1	7	6	[illegible]		11	5													
Indiana	4	1		2	6			[illegible]	[illegible]		2	5	[illegible]	1	1	4													
Iowa	5	3		2	6			4	5			4			1	4													
Kansas	3	3			5			6	7		12	7	6													[illegible]		[illegible]	[illegible]
Kentucky	3	1		6	5			4	5	1	6	5	4																
Louisiana	2	1			4			4	4			4		2		2													
Maine												3																	
Maryland & DC	1	1			4							4				4												1	
Massachusetts	1	1			5							4			2	[illegible]													
Michigan	1	1			3			3	C			4			2	6													
Minnesota	4	3			5			5	5			5	6			4													
Mississippi	2	2			4						3	5			2														
Missouri	1	1		4	5			4	6			5	1	1		5													
Montana	3	2			5			3	5			5																	
Nebraska	8	6			6			5	6			5	5			5													
Nevada	1	1			4							3		1															
New Hampshire												3		1	7	3													
New Jersey ‡																													
New Mexico	2	2		1	3										1														
New York ‡																													
North Carolina	5	3		6	5			3	5	1	9	[illegible]	3	1	2														
North Dakota	10	7		1	5			7	6			5	4			5													
Ohio	12	1		24	7			3	3			7			5	5													
Oklahoma	3	1			3			5	6			5			2	[illegible]													
Oregon												[illegible]				[illegible]													
Pacific *																													
Pennsylvania	1	1			3			[illegible]	[illegible]	1	6	6	[illegible]	2		6	[illegible]												
Puerto Rico *																													
Rhode Island												5																	
South Carolina	2	1			5			4	5		1	4	4			4													
South Dakota	2	2						6	5			[illegible]	[illegible]			[illegible]													
Tennessee	2	2			4				4	2	8	5		3	4	5													
Texas	4	3			4			5	6			5																3	
Utah *																													
Vermont *																													
Virgin Islands *																													
Virginia	2	2			5			4	4	13	7	6			1													1	
Washington *																													
West Virginia	1	1		5	5			5	2																				
Wisconsin	2	1		8	7			6	C																				
Wyoming	10	5			3			7	C						6														

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JUNE 1977

Herbert J. Thompson, Office of Hydrology

Major river flooding occurred in Kansas affecting tributaries of the Missouri River, and streams in the Arkansas River Basin. Losses in the lower Kansas-Marais des Cygnes Basins reached nearly $3 million with one death, and this flooding extended downstream into the Osage Basin in Missouri. Losses in the Arkansas River Basin in Kansas were about $3.5 million. Minor to moderate flooding occurred on streams in Texas, the Carolinas, Nebraska, and Alaska.

A number of small stream and flash flood events were reported in various parts of the country including Iowa, Illinois, Wyoming, the Dakotas, Colorado, Kansas, West Virginia, Texas, Yosemite National Park in California, Idaho, Washington, and Alaska. Severe urban flooding was reported in Des Moines, IA, the Quad Cities area of Iowa and Illinois, Cheyenne, WY, Colorado Springs and Denver, CO, Indianapolis, IN, Linton, ND, and Lawrence, KS.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE		
The only flooding in this area was a continuation of the serious flooding on the Lumber River in North Carolina and the minor flooding on the Little Pee Dee River in South Carolina which ended by the 8th. Crests occurred in May.	0	N.A.
UPPER MISSISSIPPI BASIN		
No river flooding occurred. Flooding was limited to small streams and urban areas. On the 23d a rush-hour storm tied up evening traffic in Des Moines. Rainfall amounts were generally 2.5 to 3.5 inches in 30 to 45 minutes. However, one area of the city received over 5 inches resulting in flooding of up to 6 feet in streets in the area. On the 30th an early morning storm from a fast moving cold front dumped 3 to over 6 inches of rain around the Quad City area. Many small streams in east central Iowa and northwest Illinois overflowed their banks for a short time and urban flooding was reported in the Quad City area. Damages were generally light. The Maquoketa River rose 7.5 feet in six hours but crested well below flood stage.	0	N.A.
MISSOURI RIVER BASIN		
Localized flash flooding was reported in Laramie County, WY, on the 23d with urban flooding in Cheyenne. Losses were initally estimated at $750,000 to crops, but losses from flooding rather than rain and hail are not known.	0	N.A.
Flash flooding occurred in northern Grant and eastern Hettinger Counties in North Dakota on the 12th when 3 to 7 inches of rain fell in 3 to 4 hours. Some locations in this area received 6 to 10 inches during the period of the 9th-12th. Many roads in the area were washed out. The Cannonball River crested a foot below flood stage. Flash flooding also occurred in Emmons County on the 14th with 3 to 4 inches of rain in 4 hours. Sand Creek washed out the road west of Temvik and urban flooding was reported in Linton, ND.	0	N.A.
In South Dakota 4 to 5 inches of rain caused small stream and lowland flooding in the south central part of the State and the northern portion of the Big Sioux Basin on the 15th-16th. Watertown, SD, received over 6 inches. Flash flooding was reported along Willow Creek, a tributary of the Bad River on the 21st.	0	N.A.
In Colorado urban flooding was reported in Colorado Springs from	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN-Cont'd		
nearly 3 inches of rain and in West Denver where more than an inch was reported on the 6th. On the 24th a cloudburst caused washouts along a 5 mile section of the North Delta Canal with about 35 families evacuated. Delta, CO, reported 0.6 inch of rain.		
Flooding occurred on the upper Little Blue River with rainfall of 4 to 6 inches between Minden and Hastings, NE. A crest about 3 feet over flood stage was reported at DeWeese, NE. Highways 281 and 74 overflowed at Ayr and Crystal Lake halting traffic. Vacationers and Girl Scouts were evacuated from the Crystal Lake Recreation Area without incident. Urban flooding occurred in Hastings.	0	N.A.
Major river and flash flooding struck east central Kansas during the period of the 18th-29th. These events began early on the 18th when rains of 7 to 10 inches in a 6-hour period over the Seven Mile Creek Basin caused severe flash flooding at Ogden, KS, with losses of $1 million to a mobile home park where 200 people were safely evacuated. There was one drowning at the nearby Fort Riley Military Reservation when a jeep was washed off a road. This storm also caused flash flooding at Chapman on Chapman Creek with 30 families evacuated from a trailer court, urban flooding in Manhattan, KS, and stream flooding along Mill Creek which crested twice over flood stage by as much as 9 feet, inundating 25,000 acres with losses of $200,000. From the 18th to the 24th 1 to 3-inch rains occurred every night over the area. The Marais des Cygnes (Upper Osage) Basin was particularly hard hit with near record flooding of 8 to 11 feet on the main stem and 4 to 6 feet of flooding on the Salt and Pottawatomie Creek tributaries. This flooding inundated more than 6,000 acres with losses of $1,558,000. On the 25th rains of 4 to 6 inches caused serious flash flooding in Wakarusa, KS, and urban flooding in Lawrence, KS, with losses of $140,000. Widespread flooding also occurred on ungaged streams during this period. Dragoon Creek was reported to be the highest since 1946.	1	2,898
Flooding also occurred downstream in the Osage (Marais des Cygnes) Basin in Missouri. From the 13th to the end of the month rainfall over the basin averaged more than a half inch daily, which caused serious flooding on tributaries and, combined with heavy flows from the Kansas portion, caused severe flooding on the main stem with a crest 11 feet over flood stage at Schell City, MO. The Marmaton River crested 10 feet over flood stage at Nevada, MO, and the Little Osage 6 feet over flood stage at Horton, MO. Flooding in the Missouri portion of the Osage Basin continued into July.	0	N.A.
OHIO RIVER BASIN		
There was no river flooding reported in the basin. Monthly rainfall totals ranged from generally above normal over the upper portion of the basin to well below normal over parts of the lower basin. Small stream flooding was reported on the 6th in the vicinity of Gary, WV, in the Tug Fork Basin and urban flooding occurred in Indianapolis, IN, on the 30th from rainfall of up to 3 inches.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JUNE 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ARKANSAS RIVER BASIN		
Major flooding occurred in the Kansas portion of the Arkansas Basin during the period of the 19th-27th affecting major tributaries of the Arkansas, including the Walnut, Verdigris, and Neosho Rivers and their tributaries. No flooding was reported along the main stem of the Arkansas. Up to 5 or 6 feet of flooding occurred along the Little Arkansas and Walnut Rivers, but no reports of losses have been received. Widespread flooding along the Verdigris from Altoona to Coffeeville, KS, inundated 3,500 acres with losses of $1,419,000, primarily to agriculture. The Verdigris crested nearly 9 feet over flood stage at Independence, KS. The lower Cottonwood River reached 4 to 5 feet over flood stage, affecting about 13,000 acres with crop losses of $731,000. The Neosho River crested 8 feet over flood stage at Oswego, KS, flooding more than 15,000 acres causing losses of $1,299,000, about 75% of which were to agriculture. Rainfall over this area was similar to that over the Marais des Cygnes Basin just to the north (discussed above) with the heaviest amounts on the 21st-22d, when 24-hour amounts of 4 to 11 inches occurred. Although most of the losses were agricultural, 12 people had to be evacuated from Neodesha and 15 people from Fredonia. The community of Dexter was almost isolated by Grouse Creek, and several people were forced from their homes along the Elk River.	0	3,449
WEST GULF OF MEXICO DRAINAGE		
Minor to moderate flooding occurred on several streams in this area. Although heavy rainfall occurred in some areas the middle of the month dry soil conditions and low streamflow prior to the storm prevented serious flooding from developing. Heaviest rainfall was during the period of the 14th-16th. The upper Sabine crested 3.5 feet over flood stage at Mineola, resulting from a total of 8.6 inches at Canton, TX, for the period. The middle Trinity had a crest nearly 7 feet over flood stage at Trinidad on the 17th. The basin above trinidad had an average rainfall of 6.9 inches, with a maximum of 11.6 inches at Mabank, TX, for 24 hours on the 16th-17th. On the lower Guadalupe River, Victoria, TX, reported 9.3 inches on the 15th and Guadalupe reached 6.5 feet over flood stage at Dupont. Minor flooding occurred on the lower Tinity, Village Creek, and the Nueces River at Tilden, TX. Pine Island Bayou was out of banks during the month but failed to exceed flood stage. In the Rio Grande Drainage Fort Stockton, TX, received 2 to 3 inches of rain in one hour on the 21st causing urban flooding, and flash flooding was reported in the Terlingua Creek watershed on the 28th with road closures.	0	N.A.
PACIFIC SLOPE DRAINAGE		
Flash flooding in Yosemite National Park drowned two people on the 28th. An extremely localized storm produced high intensity rainfall of short duration over Tenaya Canyon resulting in a 5 feet wall of water which swept a young woman and would-be rescuer to their deaths. Tenaya Creek is a tributary of the Merced River.	2	N.A.
Flash flooding struck four areas of Idaho. On the 8th flash flooding in the Buist and Arban Valley areas of Oneida and Power Counties, respectively, destroyed about 300 acres of wheat and damaged local roads and irrigation systems. On the	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JUNE 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PACIFIC SLOPE DRAINAGE-Cont'd		
10th flash flooding washed out the shoulder of Interstate 80 in Oneida County for about 8 miles, requiring 5500 feet of fence, 19,000 cubic yards of fill, and 460 fence posts for repairs. On the 11th several houses and vehicles in Murphy, ID, were damaged, and State Highway 78 received major damage between Guffey and Murphy. Minor flash flooding was also reported on the 13th and 20th in Idaho with local road and railroad damage.		
In Washington flash flooding occurred in the Snake River Canyon on the 7th in the vicinity of Asotin and Anatone and in the Grande Ronde River drainage. Damage to residences, automobiles, and resort buildings was estimated at $25,000. Also on the 7th flash flooding washed out a secondary state highway between Edwall and Reardon near Spokane. Flash Flooding in the vicinity of Entiat caused damage estimated at $110,000 on the 13th. Most of the losses were to crops, machinery, and automobiles in the Entiat River Valley; however, some losses also occurred along several small tributaries on the east bank of the Columbia River.	0	135
ALASKA		
The spring breakup on the Yukon River ended on June 1 as flood waters receded from the delta towns of Alakanot and Emmonak. All streams fed by snowmelt in south central Alaska were high during June as the record snowpack at higher elevations melted. At or near bankful were: The Kenai and Resurrection Rivers on the Kenai Peninsula; Ship, Rabbit, and Campbell creeks in Anchorage; the Mantanuska, Susitna, and little Susitna Rivers, and Willow and Montana Creeks in the Mantanuska and Susitna Valleys; and the Gulkana, Gakana, and Tonsina Rivers in the Copper River Basin. The only significant losses were from flash flooding along Rabbit Creek caused by failure of an ice jam in the headwaters of the stream. A residence was seriously damaged and several private bridges were washed out. The Kenai River was slightly over flood stage the latter half of the month without significant damage although flooding continued into July. The Chandelar River in the upper Yukon Basin flooded the village of Venetie for 3 days forcing the evacuation of the inhabitants. However damage was light. The Koyukuk River was the highest in at least 10 years, according to residents, and flooded the runway at the villages of Allakeket and Hughes.	0	N.A.

FLOOD STAGE DATA

(All dates in June unless otherwise specified)

River and station	Flood stage	Above flood stages –dates From–	 To–	Crest Stage	 Date
	Ft			Ft	
ATLANTIC SLOPE DRAINAGE					
Lumber:					
Lumberton, NC	9	May 25	7	14.08	May 26,27
Little Pee Dee:					
Galivants Ferry, SC	9	May 29	8	10.4	May 31
MISSOURI RIVER BASIN					
Little Blue River:					
Deweese, NE	8	21	22	11.2	21
Mill Creek:					
Paxico, KS	19	18	19	22.7 28.1	18 19
Wakarusa River:					
Lawrence, KS	23	21	21	25.2	21
Salt Creek:					
Lyndon, KS	10	18 21	19 22	14.42 11.7	19 21
Pottawatomie Creek:					
Garnett, KS	26	18	24	31.9	19
Lane, KS	23	20	25	27.8	20
Marmaton River:					
Nevada, MO	22	20	1/	32.10	24
Little Osage River:					
Horton, MO	23	20	1/	29.14	24
Marais Des Cygnes (Osage):					
Reading, KS	14	18 25	21 26	25.0 23.86	19 25
Quenemo, KS	17	18 20 21	20 20 23	24.02 18.20 26.13	18 20 22
Pomona 2 S, KS	20	19 22	20 23	25.9 25.28	20 22
Ottawa, KS	27	21	24	31.2	22
Osawatomie, KS	28	20	26	38.0	23
Lacygne, KS	25	21	28	33.33	24
State Line, KS	25	23	29	32.7	25
Osage River:					
Schell City, MO	25	21	1/	35.92	29
Osceola, MO	22	28	1/	25.14	Jul 1
Bagnell Dam, MO	660	29	1/	660.6	Jul 2
ARKANSAS RIVER BASIN					
Little Arkansas:					
Halstead, KS	18	23	26	#18.4 #18.45	23 26
Sedgwick, KS	18	22	27	#22.7 #19.8	22 26
Walnut:					
Augusta, KS	23	22	23	28.6	23
Winfield, KS	30	24	25	32.59	24
Arkansas City, KS	18	23	26	20.86	25
Whitewater:					
Towanda, KS	22	22	23	22.8	23
Augusta 1 WNW, KS	21	22	23	25.3	22
Verdigris:					
Altoona, KS	23	20	26	27.4 27.56	22 24
Independence, KS	30	22	25	38.6	24
Coffeyville, KS	18	23	26	22.7	23
Cedar Creek:					
Cedar Point, KS	10	19	22	15.6	19
Cottonwood:					
Florence, KS	22	19	20	#23.2	20
	Ft			Ft.	
ARKANSAS RIVER BASIN-Continued					
Cottonwood-Cont'd:					
Cottonwood Falls, KS	9	22	23	#10.3	22
Plymouth, KS	28	20	25	#33.11	23
Emporia, KS	20	22	25	#23.99	24
Neosho:					
Americus, KS	26	26	26	#26.00	26
Neosho Rapids, KS	22	23 26	24 27	23.32 22.85	23 26
Chanute, KS	23	20	21	24.08	20
Parsons, KS	22	21	24	23.2	22
Oswego, KS	17	20	27	25.10	23
WEST GULF OF MEXICO DRAINAGE					
Sabine:					
Emory, TX	12	16	17	13.51	17
Mineola, TX	14	18	22	17.49	20
Village Creek:					
Kountze, TX (near)	12	16	19	12.47	17
Trinity:					
Trinidad, TX	28	17	18	34.78	17
Long Lake, TX	35	21	21	35.46	21
Moss Bluff, TX	4	22	29	# 5.0	25,26,27
Guadalupe:					
Victoria, TX	21	15	16	21.20	15
Dupont, TX	20	15	21	26.5	16
Nueces:					
Tilden, TX	14	May 31	2	14.94	1
ALASKA					
Kenai:					
Cooper Landing	12	18	1/	14.64	Aug 11

RAWINSONDE DATA

Average monthly values

ALBANY, NY
1002 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	86	15.1	11.9	22	.9
1000	18	138	14.6	9.9	27	1.0
950	30	539	14.4	9.0	30	3.9
900	30	995	11.7	6.6	31	5.1
850	30	1,471	8.7	3.9	31	5.7
800	30	1,971	5.9	-.6	30	6.8
750	30	2,497	3.2	-4.6	30	8.0
700	30	3,054	.8	-10.6	29	8.3
650	30	3,646	-2.4	-15.5	29	9.2
600	30	4,278	-5.8	-20.[illegible]	29	9.3
550	30	4,955	-9.8	-25.7	29	10.4
500	30	5,684	-14.4	-29.0	29	11.5
450	29	6,470	-20.0	-33.3	29	12.6
400	29	7,333	-26.2	-37.9	29	14.7
350	29	8,288	-33.2	-42.[illegible]	30	18.0
300	28	9,351	-41.6	-46.0	30	20.5
250	28	10,566	-49.0		29	24.0
200	28	12,013	-53.6		29	24.6
175	28	12,869	-54.8		30	19.8
150	28	13,854	-55.2		29	15.6
125	27	15,016	-56.2		29	10.9
100	27	16,433	-57.2		29	6.3
80	26	17,845	-56.6		32	2.3
70	25	18,693	-55.7		04	1.[illegible]
60	24	19,678	-54.7		08	2.0
50	23	20,849	-53.5		08	4.8
40	23	22,290	-51.9		09	6.9
30	23	24,166	-49.3		09	[illegible].1
25	22	25,361	-47.[illegible]		09	9.3
20	22	26,843	-45.3		09	10.7
15	21	28,773	-42.2		09	11.8
10	13	31,550	-36.6			
7						
5						

ALBUQUERQUE, NM
839 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,619	17.3	2.8	06	1.0
800	30	2,028	19.[illegible]	1.9	21	.1
750	30	2,579	15.5	-1.2	29	1.8
700	30	3,159	11.2	-3.5	27	2.4
650	30	3,773	6.5	-6.0	26	2.8
600	30	4,424	1.2	-10.0	24	3.2
550	30	5,117	-4.4	-13.9	22	3.9
500	30	5,860	-9.9	-19.3	22	3.4
450	30	6,665	-15.1	-26.9	23	3.3
400	30	7,545	-21.2	-33.9	23	4.3
350	30	8,520	-28.5	-40.4	24	[illegible].3
300	30	9,602	-37.2	-48.3	24	6.7
250	30	10,836	-47.0		23	9.4
200	29	12,283	-56.3		24	12.6
175	29	13,124	-59.9		25	13.7
150	29	14,079	-63.3		25	11.9
125	28	15,193	-66.3		25	10.3
100	27	16,541	-67.5		26	4.1
80	27	17,890	-65.7		10	1.2
70	27	18,707	-63.4		09	4.0
60	27	19,661	-60.3		09	5.6
50	27	20,807	-56.[illegible]		09	[illegible].2
40	27	22,230	-54.4		09	7.7
30	27	24,086	-51.7		09	[illegible].8
25	27	25,274	-49.7		09	9.6
20	26	26,743	-46.7		09	8.5
15	22	28,660	-43.6		08	10.8
10	15	31,416	-37.6		09	15.1
7	[illegible]	33,893	-33.0			

AMARILLO, TX
891 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,095	19.3	13.4	21	3.0
850	30	1,504	20.5	10.3	22	8.9
800	29	2,026	18.8	6.6	23	8.1
750	29	2,577	15.5	2.8	25	5.6
700	29	3,158	11.2	-.2	26	3.3
650	29	3,772	6.6	-5.3	26	2.7
600	29	4,423	1.4	-9.0	27	1.3
550	29	5,117	-3.7	-14.2	26	1.3
500	29	5,863	-8.9	-22.0	27	1.4
450	29	6,670	-14.4	-27.2	26	1.5
400	29	7,554	-20.3	-35.1	26	2.5
350	29	8,531	-27.7	-40.9	26	3.6
300	29	9,618	-36.1	-48.7	26	5.3
250	29	10,859	-45.8		25	7.9
200	29	12,309	-56.2		26	10.4
175	29	13,149	-60.3		26	10.6
150	29	14,102	-63.7		26	10.9
125	29	15,215	-66.1		27	9.2
100	29	16,560	-67.5		28	3.9
80	29	17,907	-65.7		08	1.1
70	29	18,723	-63.4		07	3.6
60	29	19,677	-60.2		09	5.5
50	29	20,823	-57.1		08	6.3
40	29	22,242	-55.1		09	7.0
30	29	24,095	-51.9		09	[illegible].3
25	29	25,283	-50.0		09	8.3
20	29	26,751	-47.1		09	9.4
15	29	28,670	-43.8		08	10.6
10	26	31,421	-38.5		09	15.1
7	15	33,885	-34.1		10	16.7

ANCHORAGE, AK
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	45	11.4	[illegible]	17	3.1
1000	29	123	11.2	5.7	18	3.3
950	30	547	9.0	3.[illegible]	19	3.3
900	30	993	6.[illegible]	2.1	18	2.0
850	30	1,459	3.1	-.4	12	1.2
800	30	1,949	.2	-3.[illegible]	10	1.5
750	30	2,464	-2.9	-6.5	09	2.0
700	30	3,007	-6.4	-9.6	09	2.3
650	30	3,583	-9.9	-15.[illegible]	09	2.4
600	30	4,196	-13.7	-19.8	10	3.3
550	30	4,853	-17.9	-26.[illegible]	10	3.5
500	30	5,558	-23.1	-31.7	10	3.6
450	30	6,321	-28.7	-37.3	10	3.8
400	30	7,153	-35.3	-43.7	10	3.8
350	30	8,073	-42.4		11	4.0
300	30	9,094	-49.8		11	3.2
250	30	10,273	-53.9		09	2.9
200	30	11,731	-47.3		12	2.2
175	30	12,616	-46.6		12	2.6
150	30	13,639	-46.5		14	2.8
125	30	14,848	-47.0		12	3.1
100	30	16,324	-47.4		13	3.3
80	30	17,799	-47.7		11	3.4
70	30	18,681	-47.8		11	3.8
60	30	19,699	-47.6		10	3.8
50	30	20,906	-47.0		09	4.6
40	30	22,385	-46.7		10	6.4
30	30	24,300	-45.4		09	7.6
25	30	25,521	-43.8		09	8.6
20	28	27,026	-41.6		09	10.0
15	26	28,999	-37.6		09	10.4
10	24	31,819	-32.8		09	12.0
7	13	34,334	-28.6			

ANNETTE, AK
[illegible] MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	[illegible]	[illegible]	[illegible]	12	1.6
1000	30	142	9.3	[illegible]	12	1.5
950	30	[illegible]	7.0	4.4	[illegible]	3.2
900	30	1,010	4.5	[illegible]	[illegible]	4.6
850	30	[illegible]	1.9	-2.2	[illegible]	5.5
800	30	1,961	-.3	[illegible]	18	5.5
750	30	2,475	-3.3	-8.[illegible]	18	5.8
700	30	[illegible]	-6.6	[illegible]	19	5.4
650	30	3,[illegible]	-9.[illegible]	[illegible]	21	5.7
600	30	4,[illegible]	-13.7	-25.[illegible]	20	5.7
550	30	4,[illegible]	-17.9	[illegible]	21	6.1
500	30	5,5[illegible]	-22.9	-35.5	22	7.[illegible]
450	30	6,3[illegible]	-28.3	[illegible]	22	8.3
400	30	7,[illegible]	-34.7	-44.4	22	9.7
350	30	8,088	-41.3	-44.[illegible]	22	11.4
300	30	9,117	-47.7		[illegible]	13.8
250	30	10,31[illegible]	-5[illegible].7		24	14.5
200	30	[illegible]	-49.4		[illegible]	11.9
175	30	12,[illegible]	-48.3		[illegible]	9.5
150	30	13,66[illegible]	-48.9		[illegible]	7.8
125	30	14,8[illegible]	-49.7		23	6.2
100	30	16,3[illegible]	-50.2		21	3.6
80	30	17,77[illegible]	-5[illegible].9		[illegible]	[illegible]
70	30	18,641	-50.9		16	2.1
60	30	19,645	-50.7		12	2.4
50	30	20,834	-50.4		[illegible]	3.2
40	29	22,292	-49.7		09	5.2
30	29	24,180	-48.4		09	6.7
25	29	25,384	-47.1		09	7.[illegible]
20	28	26,[illegible]	-45.3		09	9.1
15	27	28,[illegible]	-41.7		09	11.2
10	22	31,586	-35.9		08	13.7
7	16	34,[illegible]	-30.3		09	13.2
5	6	36,482	-28.9			

ATHENS, GA
987 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	246	19.3	16.5	30	.8
1000						
950	30	575	22.0	14.7	29	4.3
900	30	1,044	19.7	11.9	29	5.8
850	30	1,534	16.6	8.6	29	7.1
800	30	2,048	13.0	5.8	29	8.2
750	30	2,588	10.1	-.4	29	8.8
700	30	3,159	6.8	-5.8	29	8.8
650	30	3,764	3.2	-8.5	29	8.9
600	30	4,409	-.8	-12.2	29	10.0
550	30	5,099	-4.[illegible]	-17.3	29	10.4
500	30	5,843	-9.1	-22.2	29	10.6
450	30	6,651	-14.[illegible]	-26.6	29	11.0
400	30	7,534	-20.[illegible]	-33.3	30	11.7
350	30	8,513	-27.4	-39.9	30	12.3
300	30	9,601	-35.7	-47.2	29	13.4
250	30	10,842	-45.7		29	13.8
200	30	12,293	-56.5		30	14.5
175	30	13,130	-61.8		30	14.4
150	30	14,074	-65.7		29	14.0
125	30	15,175	-67.[illegible]		30	11.0
100	30	16,516	-67.6		31	5.3
80	30	17,870	-64.4		01	2.5
70	30	18,691	-62.4		05	2.8
60	30	19,649	-59.4		07	4.6
50	30	20,799	-56.5		08	6.1
40	30	22,223	-54.1		09	7.2
30	30	24,082	-51.5		09	8.1
25	30	25,271	-49.[illegible]		09	8.9
20	29	26,741	-46.8		09	9.8
15	29	28,660	-44.3		09	11.0
10	23	31,406	-39.2		09	13.5
7	10	33,875	-34.7			
5						
4						

BARROW, AK
1017 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	8	-.3	-.9	06	2.1
1000	30	139	.[illegible]	-.5	07	2.4
950	30	554	3.5	-3.0	09	2.1
900	30	994	4.0	-4.0	10	1.6
850	30	1,457	2.4	-6.8	12	1.3
800	30	1,945	.1	-8.4	19	1.3
750	30	2,460	-2.7	-13.6	19	1.6
700	30	3,004	-5.9	-15.4	19	1.4
650	30	3,581	-9.[illegible]	-20.9	19	1.6
600	30	4,196	-12.9	-24.7	21	2.2
550	30	4,854	-17.6	-28.3	20	2.7
500	30	5,560	-22.4	-32.8	18	3.4
450	29	6,324	-28.0	-37.6	20	4.[illegible]
400	29	7,159	-34.4	-43.7	20	4.1
350	29	8,081	-41.8		20	4.3
300	29	9,104	-49.6		18	5.1
250	29	10,287	-51.4		18	4.5
200	28	11,756	-45.3		17	3.2
175	28	12,648	-45.0		16	2.[illegible]
150	28	13,678	-45.4		15	2.2
125	28	14,893	-45.7		14	[illegible].1
100	28	16,378	-46.3		12	2.4
80	27	17,856	-46.0		11	2.6
70	27	18,747	-45.2		10	[illegible].7
60	27	19,777	-44.8		09	3.9
50	25	20,993	-44.3		09	4.[illegible]
40	23	22,490	-44.0		09	5.6
30	17	24,422	-43.1		09	[illegible].4
25	11	25,645	-41.9		09	7.8

BARTER ISLAND, AK
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	15	.4	-.2	29	.5
1000	30	118	.8	.3	30	.7
950	30	534	5.1	.1	29	1.0
900	30	977	5.4	-2.3	29	1.6
850	30	1,443	3.7	-3.6	30	1.4
800	30	1,934	1.5	-5.5	30	1.3
750	30	2,451	-1.3	-8.6	31	1.0
700	30	2,998	-4.7	-11.2	31	.8
650	30	3,578	-8.1	-16.5	34	.4
600	30	4,196	-11.9	-20.7	28	.6
550	30	4,856	-16.3	-26.8	20	1.2
500	30	5,566	-21.5	-31.8	19	1.[illegible]
450	30	6,334	-27.0	-37.3	18	2.5
400	30	7,173	-33.3	-43.2	18	[illegible]
350	30	8,100	-40.5	-47.5	17	4.5
300	30	9,130	-48.2		16	6.2
250	30	10,315	-53.1		16	6.6
200	30	11,772	-46.9		17	2.[illegible]
175	30	12,661	-45.6		16	1.4
150	30	13,687	-46.0		14	1.4
125	30	14,899	-46.3		12	1.8
100	30	16,381	-46.8		11	2.2
80	29	17,861	-46.4		09	2.7
70	29	18,750	-45.5		09	2.8
60	29	19,779	-45.0		09	4.0
50	29	21,000	-44.4		09	4.7
40	29	22,496	-44.1		08	[illegible].0
30	28	24,427	-43.4		09	7.6
25	27	25,655	-42.6		09	[illegible].2
20	27	27,167	-41.1		09	8.[illegible]
15	24	29,136	-38.1		09	9.1
10	24	31,959	-32.8		09	10.5
7	19	34,489	-27.5		09	13.3
5	13	36,919	-23.6		09	13.7
4	6	38,514	-21.9			

BETHEL, AK
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	39	8.7	6.4	28	1.8
1000	29	114	9.9	6.4	31	2.0
950	30	537	[illegible].9	1.0	04	1.0
900	30	983	6.3	-1.6	15	1.5
850	30	1,449	3.1	-3.9	17	2.1
800	30	1,938	.1	-6.3	17	[illegible].0
750	30	2,452	-3.1	-8.7	16	2.0
700	30	2,995	-6.7	-12.7	15	2.1
650	30	3,570	-10.0	-17.9	15	2.7
600	30	4,183	-14.0	-23.5	14	3.5
550	30	4,838	-18.4	-28.9	15	3.4
500	30	5,543	-23.2	-34.6	15	3.5
450	30	6,306	-28.6	-39.1	15	3.7
400	30	7,139	-34.7	-45.0	16	3.3
350	30	8,061	-41.7	-50.9	16	3.2
300	30	9,088	-48.5		16	2.1
250	30	10,272	-53.0		18	[illegible].2
200	30	11,730	-46.8		18	1.2
175	30	12,616	-46.2		13	1.5
150	30	13,640	-46.4		13	2.3
125	30	14,848	-47.3		12	[illegible].3
100	30	16,324	-47.1		11	3.1
80	29	17,801	-47.4		11	3.5
70	29	18,684	-47.5		11	4.3
60	29	19,703	-47.3		10	4.2
50	29	20,910	-47.1		09	4.6
40	29	22,389	-46.8		09	6.5
30	28	24,300	-45.9		09	7.4
25	28	25,518	-44.4		09	[illegible].5
20	27	27,024	-41.9		09	9.1
15	25	28,994	-38.2		09	10.5
10	13	31,817	-32.7		09	12.1

BISMARCK, ND
955 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	503	13.1	10.6	18	.1
950	25	559	14.1	10.3	10	.4
900	30	1,007	15.6	7.5	24	.7
850	30	1,490	13.6	5.3	27	3.1
800	30	1,999	1[illegible].8	2.5	28	5.1
750	30	2,535	7.4	-1.1	29	6.5
700	30	3,099	3.9	-4.7	29	9.1
650	30	3,698	.2	-9.0	30	10.8
600	30	4,335	-3.6	-14.2	29	13.0
550	30	5,018	-7.8	-19.1	29	14.5
500	30	5,752	-12.7	-24.4	29	14.5
450	30	6,548	-18.3	-29.9	29	16.8
400	30	7,417	-24.4	-36.3	29	17.2
350	30	[illegible],378	-31.7	-42.5	29	19.6
300	29	9,447	-39.8	-46.8	28	22.0
250	29	10,670	-48.5		27	24.0
200	29	12,109	-56.7		27	24.5
175	29	12,953	-58.0		28	22.7
150	29	13,924	-58.1		29	17.4
125	29	15,072	-57.8		29	13.4
100	28	16,479	-58.6		29	7.6
80	27	17,883	-58.4		30	4.1
70	27	18,725	-57.2		34	2.6
60	27	19,704	-55.7		03	2.3
50	27	20,870	-54.0		07	3.4
40	27	22,309	-52.3		08	5.8
30	27	24,179	-49.8		08	8.1
25	24	25,375	-48.2		09	8.8
20	24	26,855	-45.5		09	9.0
15	19	28,792	-42.6		08	10.9
10	11	31,567	-36.0		09	11.8

BOISE, ID
914 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	871	14.6	6.7	16	1.1
1000						
950						
900	30	1,005	17.4	5.6	21	.2
850	30	1,494	17.8	2.9	33	2.0
800	30	2,010	14.4	.2	32	2.6
750	30	2,551	10.7	-1.[illegible]	29	3.[illegible]
700	30	3,122	6.6	-4.9	27	5.0
650	30	3,726	2.[illegible]	-8.0	25	6.5
600	30	4,368	-1.9	-12.2	25	7.9
550	30	5,055	-6.3	-16.2	25	9.4
500	30	5,793	-11.3	-21.0	25	10.5
450	30	6,593	-16.7	-26.[illegible]	25	10.5
400	30	7,467	-23.[illegible]	-33.0	25	10.4
350	30	8,434	-30.6	-39.5	26	11.[illegible]
300	30	9,506	-39.5	-47.0	26	11.4
250	30	10,727	-49.5		25	11.8
200	30	12,158	-58.3		25	13.6
175	30	12,995	-59.9		25	13.0
150	30	13,956	-60.9		25	11.5
125	30	15,091	-60.3		25	9.6
100	29	16,483	-60.4		23	6.4
80	29	17,874	-59.9		24	2.6
70	29	18,712	-58.3		14	1.0
60	28	19,682	-57.1		10	2.4
50	28	20,841	-55.3		09	4.2
40	28	22,271	-53.6		09	6.2
30	28	24,134	-50.7		08	7.9
25	28	25,328	-48.5		08	9.3
20	27	26,803	-46.0		08	10.6
15	27	28,730	-42.9		09	11.3
10	20	31,485	-37.0		09	11.2
7						

BOOTHVILLE, LA
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	27	1	25.8	22.7	21	1.2
1000	27	143	25.7	21.9	28	1.1
950	27	594	22.[illegible]	17.4	21	3.0
900	27	1,064	20.1	12.8	19	2.9
850	27	1,555	17.6	7.3	18	2.[illegible]
800	27	2,072	15.0	1.7	18	2.7
750	27	2,615	11.7	-2.7	18	2.7
700	27	3,188	8.2	-6.1	19	1.8
650	27	3,797	[illegible].7	-9.9	21	1.5
600	27	4,444	.7	-13.6	26	.9
550	27	5,138	-3.3	-18.1	29	1.2
500	27	5,885	-8.3	-22.8	28	1.[illegible]
450	27	6,695	-13.5	-27.6	29	2.1
400	27	7,581	-19.3	-32.6	28	2.3
350	26	8,567	-25.9	-39.5	28	3.2
300	26	9,662	-34.4	-45.5	28	3.[illegible]
250	26	10,910	-44.6		28	3.8
200	26	12,369	-55.2		29	6.4
175	26	13,211	-60.5		29	6.4
150	26	14,158	-65.8		29	6.0
125	26	15,255	-69.7		30	4.[illegible]
100	26	16,579	-70.8		35	2.6
80	25	17,915	-67.6		06	4.4
70	25	18,726	-63.6		08	6.1
60	25	19,681	-60.0		07	7.7
50	24	20,832	-56.[illegible]		09	9.8
40	24	22,255	-54.2		09	9.9
30	24	24,113	-51.4		09	12.5
25	24	25,303	-49.0		09	13.6
20	23	26,779	-46.2		09	13.2
15	21	28,704	-43.0		08	13.4
10	16	31,474	-38.2		09	18.7
7	6	33,954	-34.6			

BROWNSVILLE, TX
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	7	24.5	22.8	15	2.4
1000	30	119	25.0	23.[illegible]	15	4.6
950	30	569	22.5	19.7	16	8.6
900	30	1,040	20.6	14.[illegible]	17	9.1
850	30	1,533	18.0	[illegible].1	17	8.6
800	30	2,050	15.3	4.4	16	7.7
750	30	2,595	12.5	-1.2	15	6.0
700	30	3,170	9.0	-5.4	14	5.3
650	30	3,780	5.3	-8.8	13	4.7
600	30	4,429	1.4	-13.2	12	3.6
550	30	5,124	-3.0	-17.4	11	2.6
500	30	5,872	-8.0	-21.2	12	2.[illegible]
450	30	6,683	-13.1	-27.[illegible]	12	.9
400	30	7,571	-19.1	-30.6	26	.3
350	30	8,553	-26.0	-38.1	25	.8
300	30	9,648	-34.3	-46.5	27	3.8
250	30	10,899	-43.8		29	6.0
200	30	12,362	-54.5		29	6.5
175	30	13,207	-60.1		29	6.8
150	30	14,154	-66.3		30	5.9
125	30	15,243	-72.2		31	3.8
100	30	16,546	-73.9		03	3.2
80	30	17,861	-69.6		06	6.[illegible]
70	30	18,563	-66.8		08	8.8
60	30	19,604	-63.1		09	9.0
50	30	20,736	-59.6		09	11.8
40	30	22,145	-55.6		09	13.6
30	30	23,996	-51.5		09	14.9
25	29	25,184	-49.7		09	14.5
20	29	26,654	-46.6		09	14.4
15	28	28,575	-43.6		08	15.4
10	26	31,330	-38.8		09	19.7
7	10	33,798	-33.8			

BUFFALO, NY
987 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	218	14.3	11.0	23	1.6
1000						
950	30	544	14.4	8.3	27	3.0
900	30	1,000	12.2	6.1	29	4.2
850	30	1,477	9.3	3.6	29	5.5
800	30	1,978	6.3	-1.0	29	6.9
750	30	2,505	3.4	-4.7	29	7.7
700	30	3,062	.[illegible]	-10.2	29	7.9
650	30	3,654	-1.8	-12.5	30	[illegible].8
600	30	4,288	-4.9	-16.5	29	9.7
550	30	4,967	-9.0	-19.2	29	10.4
500	30	5,698	-13.7	-25.1	29	11.5
450	30	6,491	-19.0	-30.2	29	12.8
400	30	7,358	-25.0	-36.0	29	14.1
350	30	8,318	-32.1	-42.8	29	15.5
300	30	9,384	-40.5	-48.6	29	17.3
250	29	10,600	-48.9		30	21.4
200	29	12,046	-54.8		30	23.2
175	29	12,896	-56.2		30	22.4
150	29	13,876	-56.1		30	17.4
125	29	15,032	-57.3		30	14.4
100	29	16,441	-57.9		30	9.8
80	29	17,848	-57.5		33	5.1
70	29	18,694	-56.6		35	2.8
60	29	19,675	-55.3		05	2.4
50	29	20,843	-53.8		07	3.9
40	28	22,279	-52.3		07	5.0
30	27	24,150	-50.0		09	8.2
25	27	25,346	-48.8		09	8.3
20	26	26,825	-45.6		09	9.6
15	22	28,741	-42.7		09	10.2
10	16	31,494	-37.2		09	12.6

CAPE HATTERAS, NC
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	4	21.7	19.1	29	1.4
1000	30	125	21.9	17.5	28	2.0
950	30	570	19.8	13.8	29	3.8
900	30	1,035	16.9	11.4	29	5.1
850	30	1,520	13.8	8.3	28	6.6
800	30	2,030	11.0	3.5	28	7.9
750	30	2,566	8.0	.1	28	9.0
700	30	3,132	4.9	-4.4	28	10.1
650	30	3,734	1.9	-8.3	28	11.2
600	30	4,377	-1.2	-14.4	28	12.5
550	30	5,066	-4.9	-19.6	28	12.8
500	30	5,808	-9.7	-23.2	28	13.9
450	30	6,614	-14.8	-28.2	28	15.2
400	30	7,496	-20.7	-34.5	28	17.0
350	30	8,472	-28.0	-41.0	28	[illegible]
300	30	9,557	-36.3	-46.1	28	20.2
250	30	10,796	-45.8		28	21.7
200	30	12,247	-56.3		28	24.0
175	30	13,086	-61.2		29	23.[illegible]
150	30	14,034	-64.3		29	18.7
125	29	15,150	-65.6		29	13.7
100	29	16,510	-64.7		29	7.6
80	29	17,877	-62.9		3[illegible]	2.6
70	29	18,705	-60.3		04	1.9
60	29	19,671	-58.2		07	3.6
50	29	20,824	-56.4		08	5.9
40	29	22,249	-54.0		09	8.2
30	28	24,112	-50.6		09	8.1
25	27	25,299	-49.4		09	8.7
20	27	26,772	-46.2		09	10.3
15	25	28,703	-43.4		09	10.7
10	22	31,462	-38.4		09	12.8
7	8	33,934	-35.0			

RAWINSONDE DATA

Average monthly values

JUNE 1977

Standard pressure surface mb	* CARIBOU, ME 988 MB						CENTREVILLE, AL 1000 MB						CHARLESTON, SC 1014 MB						CHATHAM, MA 1009 MB						CHIHUAHUA, MEXICO 858 MB					
	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	191	12.1	10.3	35	.5	30	140	20.6	17.9	31	.4	30	13	22.2	19.2	27	1.3	30	16	14.9	12.8	27	1.3	30	1,428	18.3	12.1	25	.7
1000							19	153	21.5	18.1	33	.1	30	133	23.0	18.8	28	2.4	28	103	15.7	11.5	26	2.6						
950	30	520	11.2	8.5	19	.6	30	589	23.5	15.6	28	4.2	30	582	23.0	13.9	29	4.5	30	531	14.9	8.5	29	4.2						
900	30	972	9.7	6.1	21	1.8	30	1,060	20.[illegible]	12.9	29	5.0	30	1,052	20.3	11.3	29	[illegible].0	30	987	12.4	5.5	29	[illegible].8						
850	30	1,445	7.4	3.2	23	1.8	30	1,551	17.1	10.3	28	5.4	30	1,543	16.8	8.9	29	[illegible].7	30	1,464	[illegible].5	3.3	29	4.3	30	1,511	19.3	9.3	25	1.2
800	30	1,942	4.7	1.0	24	1.8	30	2,067	13.9	5.5	29	5.5	30	2,057	13.3	5.0	29	6.3	30	1,965	6.[illegible]	1.0	29	5.1	30	[illegible],033	18.4	6.4	24	2.0
750	30	2,466	1.9	-1.8	25	2.1	30	2,608	10.[illegible]	-.4	28	4.9	30	2,598	10.0	.1	29	7.4	30	2,492	3.3	-3.3	29	7.0	30	2,584	15.1	3.4	22	.2
700	30	3,021	-.8	-6.8	25	3.3	30	3,180	7.3	-4.3	28	5.1	30	3,168	6.7	-4.7	29	7.9	30	3,050	1.2	-8.9	28	7.7	30	3,164	10.6	.9	06	1.4
650	30	3,610	-3.7	-11.2	26	4.6	30	3,787	3.[illegible]	-8.2	29	6.0	30	3,773	3.2	-6.5	29	8.7	30	3,643	-1.6	-12.4	28	9.[illegible]	30	3,777	5.8	-1.5	04	1.9
600	29	4,241	-7.1	-17.0	25	5.4	30	4,433	.1	-13.2	29	5.5	30	4,418	-.6	-11.3	29	9.6	30	4,277	-5.0	-17.2	28	10.1	30	4,426	.8	-4.7	04	2.7
550	29	4,914	-11.4	-21.4	25	5.9	30	5,125	-4.3	-18.0	30	6.4	30	5,109	-4.1	-15.8	29	10.0	30	4,955	-9.4	-21.4	28	11.1	30	5,120	-4.2	-10.3	03	3.5
500	29	5,639	-15.9	-27.0	25	6.1	30	5,869	-9.1	-22.8	29	6.[illegible]	30	5,855	-8.5	-20.7	29	[illegible].5	30	5,685	-14.2	-28.1	28	12.0	30	5,864	-9.1	-16.6	03	2.0
450	29	6,424	-21.5	-32.4	25	7.2	30	6,677	-14.1	-26.7	29	7.5	30	6,664	-13.6	-27.4	29	[illegible].5	29	6,473	-20.0	-32.8	28	13.1	30	6,674	-13.4	-25.6	31	1.3
400	29	7,281	-27.9	-37.8	25	8.4	30	7,561	-19.9	-32.9	29	7.9	30	7,549	-19.9	-32.6	29	10.1	29	7,336	-26.5	-39.0	28	14.9	30	7,560	-19.4	-31.1	28	3.2
350	28	8,225	-35.3	-44.5	25	[illegible].9	30	8,541	-26.9	-38.6	29	7.[illegible]	30	8,530	-26.7	-39.3	29	11.2	28	8,295	-33.3	-45.1	28	16.9	30	8,542	-26.4	-38.3	27	5.9
300	28	9,277	-43.6	-48.9	25	9.7	30	9,631	-35.3	-46.8	29	8.5	30	9,621	-35.0	-47.9	29	11.7	28	9,357	-40.9	-50.5	28	19.2	30	9,634	-34.8	-45.8	27	8.3
250	28	10,484	-50.1		25	13.[illegible]	30	10,875	-45.1		29	[illegible].8	30	10,866	-45.0		29	13.0	28	10,578	-48.1		28	21.3	30	10,882	-44.4		27	9.5
200	28	11,934	-52.2		26	12.3	30	12,329	-56.1		29	9.8	30	12,322	-55.9		29	14.0	28	12,028	-53.9		28	21.9	30	12,343	-54.4		28	12.4
175	28	12,799	-52.1		26	9.9	30	13,168	-61.2		29	[illegible].8	30	13,160	-61.6		29	13.9	28	12,882	-55.7		28	18.2	30	13,189	-59.3		28	12.6
150	28	13,797	-52.2		27	8.3	30	14,115	-65.8		29	9.6	30	14,105	-65.6		30	13.6	28	13,862	-56.1		28	14.2	30	14,142	-64.8		27	10.6
125	28	14,977	-52.9		27	6.1	30	15,212	-68.7		30	8.7	30	15,206	-68.1		30	10.1	28	15,020	-56.8		28	11.2	30	15,241	-70.0		26	8.4
100	28	16,412	-54.0		27	4.3	30	16,548	-68.5		32	4.5	30	16,545	-67.5		31	5.8	28	16,431	-57.7		28	6.2	30	16,558	-72.3		25	2.6
80	28	17,846	-53.4		23	1.0	30	17,895	-65.4		02	2.4	29	17,897	-64.5		01	1.[illegible]	27	17,839	-57.4		29	2.2	28	17,879	-69.1		09	3.3
70	28	18,707	-52.9		11	1.0	30	18,712	-63.2		06	3.2	29	18,719	-62.0		04	1.8	27	18,685	-56.2		35	.3	27	18,686	-65.7		09	5.7
60	28	19,703	-52.1		10	2.3	30	19,667	-60.1		07	5.0	28	19,678	-59.4		06	4.4	26	19,668	-55.1		08	1.5	27	19,631	-62.1		09	8.6
50	28	20,887	-51.2		09	4.0	30	20,816	-56.7		08	6.[illegible]	28	20,827	-56.6		08	7.1	26	20,836	-53.9		09	3.4	27	20,770	-58.2		09	10.1
40	27	22,343	-50.3		09	6.0	30	22,238	-54.5		08	7.5	27	22,255	-53.7		09	[illegible].4	24	22,265	-52.2		09	5.6	27	22,185	-55.4		09	11.0
30	26	24,228	-48.5		09	8.2	30	24,092	-51.9		09	[illegible].7	27	24,119	-50.5		09	8.6	23	24,141	-49.8		09	7.4	27	24,031	-52.5		09	12.0
25	25	25,440	-46.[illegible]		09	9.1	30	25,279	-49.8		09	9.6	27	25,313	-48.8		09	8.9	22	25,338	-47.8		09	7.7	25	25,216	-50.3		09	13.0
20	23	26,934	-43.6		09	9.7	30	26,749	-46.[illegible]		09	10.9	26	26,788	-46.2		09	[illegible]	20	26,819	-45.1		09	9.4	23	26,677	-47.7		09	12.6
15	19	28,896	-39.5		09	10.5	28	28,668	-44.0		09	11.0	24	28,710	-43.5		08	11.3	19	28,758	-41.8		09	11.1	19	28,591	-44.4		08	13.9
10	12	31,689	-35.0				21	31,420	-38.[illegible]		09	13.7	19	31,477	-37.2		09	14.8	10	31,550	-36.3				9	31,349	-39.3			
7							16	33,895	-34.3		09	15.9																		

	* COLD BAY, AK 1010 MB						DAYTON, OH 980 MB						DEL RIO, TX 977 MB						DENVER, CO 839 MB						DODGE CITY, KS 923 MB					
SFC	29	30	8.1	5.4	17	.7	30	299	16.2	13.3	28	.6	30	314	23.0	20.1	11	3.7	30	1,611	15.5	7.[illegible]	20	.7	30	791	20.2	14.1	14	.5
1000	25	127	6.2	4.8	29	1.4																								
950	29	530	4.1	2.8	21	.2	30	563	17.[illegible]	10.6	28	2.1	30	557	22.3	19.5	14	7.0												
900	29	969	3.1	-.6	33	.2	30	1,023	14.7	7.7	30	3.6	30	1,028	20.4	16.0	17	8.7							30	1,013	21.4	13.9	20	3.7
850	29	1,432	1.5	-2.5	09	.4	30	1,505	11.9	5.0	29	5.5	30	1,521	18.6	11.8	17	7.2							30	1,509	20.3	10.[illegible]	22	6.1
800	29	1,919	-.9	-5.4	15	1.3	30	2,011	9.6	2.3	29	7.5	30	2,040	15.8	7.5	15	5.3	30	2,017	17.1	4.6	29	1.9	30	2,031	18.5	5.7	23	5.4
750	29	2,432	-3.7	-9.1	31	.0	30	2,545	7.4	-4.2	30	[illegible].5	30	2,586	13.5	-.5	13	3.2	30	2,566	15.1	.0	30	2.0	30	2,582	14.9	3.0	25	4.8
700	29	2,974	-6.7	-14.2	34	.4	30	3,110	4.5	-9.4	30	[illegible].5	30	3,164	10.0	-5.4	09	3.1	30	3,146	11.0	-3.1	29	2.7	30	3,161	10.7	-.7	25	4.2
650	29	3,550	-9.7	-17.9	23	.3	30	3,710	1.[illegible]	-13.1	30	10.4	30	3,775	6.0	-9.[illegible]	07	[illegible]	30	3,761	6.[illegible]	-7.[illegible]	28	3.7	30	3,774	6.0	-3.9	25	4.4
600	29	4,164	-13.2	-22.6	20	.7	30	4,350	-2.4	-16.0	30	10.5	30	4,425	1.2	-12.[illegible]	05	3.6	30	4,412	1.5	-11.9	27	4.2	30	4,424	.9	-8.1	26	3.7
550	29	4,822	-17.5	-27.7	20	1.1	30	5,035	-6.7	-20.4	30	11.1	30	5,119	-3.4	-17.5	05	3.4	30	5,106	-4.1	-15.9	26	5.4	30	5,117	-4.1	-14.4	27	4.2
500	29	5,529	-22.3	-33.5	21	1.1	30	5,773	-11.3	-25.5	30	12.4	30	5,866	-8.2	-22.[illegible]	04	1.6	30	5,849	-10.2	-20.5	26	5.6	30	5,862	-9.0	-20.9	26	5.0
450	29	6,295	-27.6	-38.0	24	1.2	30	6,574	-16.5	-29.7	30	13.6	29	6,676	-13.3	-28.0	05	.9	30	6,652	-15.5	-28.1	26	6.3	30	6,669	-14.9	-25.9	27	4.5
400	29	7,132	-33.9	-43.8	27	2.6	30	7,449	-22.7	-35.8	30	15.2	29	7,562	-19.4	-34.3	03	1.5	30	7,530	-22.0	-34.8	26	7.4	30	7,550	-21.0	-34.2	28	5.0
350	29	8,057	-40.6	-48.1	28	3.9	30	8,418	-29.5	-42.0	30	16.5	29	8,544	-26.5	-40.8	34	2.6	30	8,501	-29.4	-41.4	26	8.8	30	8,524	-28.2	-40.1	28	6.1
300	29	9,087	-48.4		28	5.4	29	9,494	-37.7	-48.4	30	17.8	29	9,636	-35.0	-47.[illegible]	32	4.8	30	9,579	-38.1	-49.6	26	9.6	30	9,609	-36.5	-48.1	27	7.4
250	29	10,270	-53.8		28	6.5	29	10,727	-46.7		30	19.9	29	10,883	-44.2		31	8.1	30	10,809	-47.9		25	11.4	30	10,846	-46.7		27	9.5
200	28	11,718	-49.4		29	4.9	28	12,173	-55.9		30	21.3	29	12,344	-54.7		30	[illegible].3	30	12,246	-57.7		25	14.1	29	12,290	-57.2		27	11.0
175	27	12,594	-48.0		29	3.3	28	13,015	-60.0		30	22.7	29	13,190	-59.2		30	[illegible].7	30	13,082	-61.1		25	13.5	29	13,127	-61.2		27	11.4
150	27	13,610	-48.5		27	1.8	27	13,972	-61.2		30	17.5	29	14,144	-64.4		30	[illegible].2	30	14,034	-62.9		25	13.3	29	14,076	-64.4		27	12.4
125	27	14,809	-49.0		25	1.0	27	15,103	-61.6		30	12.5	29	15,245	-69.5		29	[illegible].9	30	15,155	-63.0		27	10.5	29	15,189	-65.3		27	10.7
100	27	16,276	-48.6		13	.7	25	16,482	-62.3		31	7.6	29	16,563	-72.4		34	1.8	30	16,522	-65.1		26	4.1	29	16,544	-66.2		30	5.4
80	26	17,744	-48.5		11	2.0	24	17,868	-61.2		33	4.1	29	17,883	-69.6		06	4.2	30	17,889	-62.5		30	.1	29	17,902	-64.3		01	1.5
70	25	18,622	-48.3		12	2.5	23	18,698	-59.8		36	3.1	29	18,687	-65.5		08	6.7	30	18,715	-61.2		09	1.6	29	18,723	-62.5		06	3.1
60	25	19,637	-48.5		10	3.2	23	19,668	-57.4		02	[illegible].7	28	19,632	-61.9		09	7.4	30	19,676	-59.3		08	3.5	29	19,679	-60.2		08	4.6
50	24	20,841	-49.0		10	4.5	23	20,826	-55.4		06	3.0	28	20,770	-58.7		09	[illegible].4	30	20,826	-56.6		08	5.4	29	20,825	-57.1		08	5.8
40	24	22,307	-48.5		10	5.8	23	22,257	-53.[illegible]		08	4.4	27	22,183	-55.7		09	10.1	30	22,251	-53.9		09	6.7	29	22,246	-54.7		09	6.9
30	22	24,212	-47.3		09	6.7	22	24,120	-50.8		09	5.5	25	24,032	-52.3		09	11.6	30	24,109	-51.6		09	7.6	29	24,101	-51.4		09	7.6
25	22	25,421	-46.4		09	7.9	21	25,310	-49.3		09	5.9	25	25,217	-50.3		09	11.7	30	25,298	-49.5		09	8.2	28	25,286	-49.7		09	7.8
20	19	26,909	-44.4		09	8.1	21	26,779	-47.5		08	7.4	25	26,683	-47.5		09	11.6	28	26,765	-46.9		09	9.3	28	26,756	-46.9		09	9.1
15	15	28,852	-39.9		09	10.2	18	28,723	-42.5		09	9.9	24	28,597	-44.4		08	12.1	26	28,685	-43.4		09	9.7	22	28,655	-44.0		08	10.3
10	7	31,689	-34.7				13	31,491	-37.8		10	10.8	20	31,345	-39.4		08	16.6	20	31,441	-38.0		09	13.6	17	31,423	-38.1		09	13.0
7													8	33,814	-35.0				5	33,929	-31.7				7	33,898	-33.1			

	EL PASO, TX 881 MB						ELY, NV 810 MB						EMPALME, MEXICO 1009 MB						* FAIRBANKS, AK 995 MB						FLINT, MI 986 MB					
SFC	30	1,193	20.9	6.8	17	.5	30	1,908	8.8	2.0	20	2.8	30	12	23.6	18.7	09	.7	30	135	12.3	6.0	31	1.1	30	236	12.7	9.2	23	.7
1000													30	86	25.3	19.8	14	1.2	7	146	13.5	6.7								
950													30	539	26.6	9.1	15	3.0	30	525	12.7	3.6	28	2.1	30	550	14.9	8.0	29	1.7
900													30	1,015	25.5	4.5	17	1.4	30	977	9.9	1.2	28	2.3	30	1,006	12.4	5.2	29	3.3
850	30	1,505	22.2	5.1	17	1.1							30	1,515	23.0	1.3	21	.[illegible]	30	1,449	6.1	-.4	28	2.3	30	1,484	9.5	2.8	29	5.3
800	30	2,029	19.5	2.2	19	1.6	30	2,018	14.3	2.1	19	2.2	30	2,039	19.5	-.7	26	.3	30	1,942	2.2	-2.1	28	2.0	30	1,985	7.3	-1.1	29	6.4
750	30	2,581	15.4	-.3	22	.8	30	2,564	14.2	-1.9	19	1.3	30	2,590	15.5	-4.2	19	1.7	30	2,460	-1.9	-4.8	25	2.1	30	2,514	5.3	-6.2	29	8.0
700	30	3,161	10.[illegible]	-3.0	25	1.1	30	3,142	9.8	-4.8	22	2.2	30	3,170	11.2	-6.7	17	2.3	30	3,005	-5.9	-8.8	23	2.1	30	3,075	2.5	-9.6	29	9.0
650	30	3,774	5.7	-5.2	26	.9	30	3,753	5.1	-7.8	21	3.5	30	3,784	6.6	-7.9	17	2.6	30	3,582	-9.3	-15.2	21	1.7	30	3,671	-.7	-13.3	30	9.6
600	30	4,422	.5	-8.6	23	.9	30	4,400	-.3	-10.4	20	4.4	30	4,435	1.7	-11.5	18	2.2	30	4,198	-12.7	-23.0	20	1.6	30	4,306	-4.5	-17.2	30	11.2
550	30	5,114	-4.8	-13.2	22	1.4	30	5,089	-5.4	-16.5	21	4.5	30	5,130	-3.1	-15.9	22	2.4	30	4,856	-17.2	-28.5	19	1.5	30	4,986	-8.7	-21.4	30	12.2
500	29	5,855	-10.2	-18.8	24	1.2	30	5,830	-10.2	-21.9	21	6.1	30	5,877	-8.3	-21.5	26	2.7	30	5,564	-22.3	-34.6	18	1.6	30	5,718	-13.4	-26.8	30	14.0
450	29	6,661	-14.9	-26.7	24	1.5	30	6,634	-15.9	-27.7	22	6.8	30	6,687	-13.3	-28.8	27	4.2	30	6,329	-28.0	-40.0	16	2.2	30	6,512	-18.6	-32.9	30	15.5
400	29	7,541	-20.9	-33.3	24	2.8	30	7,510	-22.3	-34.1	22	6.9	30	7,574	-19.3	-35.1	27	6.5	29	7,160	-34.6	-45.1	15	2.8	30	7,380	-24.6	-38.5	30	17.2
350	28	8,518	-28.1	-38.8	23	4.6	30	8,480	-29.7	-41.7	22	7.4	30	8,556	-26.3	-41.4	27	7.6	29	8,082	-41.9		13	3.4	30	8,341	-31.7	-43.3	30	19.6
300	28	9,602	-36.6	-47.5	24	7.3	30	9,556	-38.7	-48.7	23	8.0	30	9,649	-34.8	-48.6	26	11.1	28	9,104	-49.8		13	4.3	30	9,410	-39.5	-49.3	29	23.3
250	28	10,841	-46.1		24	10.8	30	10,782	-48.6		24	8.3	30	10,896	-44.2		27	14.5	27	10,285	-52.8		14	3.2	30	10,637	-47.4		29	26.7
200	28	12,291	-56.0		25	14.4	30	12,217	-57.8		25	10.0	30	12,360	-54.0		26	17.9	27	11,745	-46.8		13	3.9	30	12,088	-54.6		29	28.5
175	28	13,132	-60.3		25	15.0	30	13,053	-60.6		24	10.3	30	13,207	-59.2		26	18.1	27	12,633	-46.0		14	3.1	30	12,938	-57.4		29	27.5
150	28	14,084	-64.1		25	13.4	30	14,011	-61.4		24	10.2	30	14,161	-64.4		25	14.8	27	13,657	-46.3		13	3.4	30	13,910	-57.6		30	21.3
125	28	15,189	-68.1		25	[illegible].8	30	15,141	-61.6		24	9.0	30	15,263	-69.1		25	9.8	27	14,869	-46.5		12	3.2	30	15,061	-58.0		30	13.9
100	28	16,519	-70.5		24	3.4	30	16,519	-63.4		23	4.4	28	16,586	-71.2		21	3.6	27	16,348	-47.3		12	3.4	30	16,465	-58.8		30	8.5
80	28	17,852	-67.5		09	2.3	29	17,890	-63.0		19	1.9	26	17,913	-67.9		10	3.2	26	17,825	-47.4		12	3.2	30	17,867	-58.0		32	3.9
70	28	18,663	-64.1		08	6.0	29	18,717	-61.1		11	1.8	26	18,721	-64.8		08	7.6	26	18,709	-47.1		11	2.7	30	18,711	-57.1		36	2.7
60	27	19,614	-60.9		09	6.8	29	19,678	-59.2		09	3.6	26	19,672	-60.6		09	[illegible].8	25	19,729	-46.7		10	3.9	30	19,690	-55.5		[illegible]	2.9
50	27	20,756	-57.9		09	7.7	29	20,828	-56.6		09	5.0	26	20,816	-57.4		09	10.9	25	20,940	-46.[illegible]		10	4.8	30	20,858	-54.0		07	4.0
40	27	22,172	-55.3		09	8.8	28	22,252	-54.3		09	5.8	26	22,235	-55.0		09	12.0	23	22,424	-45.9		09	6.1	30	22,296	-52.4		08	5.6
30	26	24,024	-51.8		09	10.0	26	24,111	-51.5		08	7.7	26	24,088	-51.6		09	13.9	21	24,339	-45.1		09	8.2	28	24,166	-49.7		09	7.4
25	25	25,208	-49.8		09	10.7	26	25,301	-49.3		08	8.9	26	25,276	-49.3		09	13.9	21	25,560	-43.8		09	9.1	27	25,368	-47.8		09	8.8
20	23	26,675	-46.9		09	9.7	26	26,773	-46.4		09	10.9	26	26,747	-47.2		09	13.5	20	27,070	-41.7		09	9.9	26	26,845	-45.7		09	9.9
15	23	28,592	-44.4		09	12.2	26	28,700	-42.7		09	10.7	20	28,670	-43.7		09	14.0	18	29,028	-38.8		09	10.4	26	28,779	-41.6		08	10.7
10	20	31,344	-38.1		09	18.4	22	31,488	-36.9		09	14.6	8	31,421	-38.9				10	31,858	-33.0				15	31,549	-36.8			
7	6	33,846	-33.4				10	33,997	-31.7																					

RAWINSONDE DATA

Average monthly values

Standard pressure surface mb	GLASGOW, MT 933 MB						GRAND JUNCTION, CO 852 MB						* GREAT FALLS, MT 889 MB						GREEN BAY, WI 989 MB						GREENSBORO, NC 9[illegible] MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	696	13.3	7.9	08	1.9	30	1,472	18.7	-1.2	12	3.0	30	1,118	12.6	4.4	25	1.7	30	210	12.7	9.4	25	1.0	30	275	18.4	14.7	27	1.0
1000																														
950																			30	545	14.4	6.8	28	2.3	30	573	19.9	12.7	29	3.9
900	30	1,002	16.7	6.2	12	1.0													30	1,000	12.5	4.8	30	3.3	30	1,038	17.5	10.1	30	6.0
850	30	1,487	15.1	2.8	29	2.3	25	1,496	19.5	.6	12	3.2	30	1,493	14.8	2.3	25	3.1	30	1,478	9.5	2.8	30	3.9	30	1,524	14.5	7.9	29	7.3
800	30	1,998	11.9	.4	30	4.3	30	2,013	20.0	.4	15	3.9	30	2,003	11.4	-.2	26	3.8	30	1,979	7.3	-1.6	30	4.4	30	2,035	11.3	4.6	29	7.5
750	30	2,535	8.0	-2.1	29	6.2	30	2,566	16.5	-2.1	21	1.9	30	2,539	7.7	-2.0	26	4.9	30	2,509	4.9	-6.1	30	5.4	30	2,572	8.4	.1	29	8.9
700	30	3,101	4.2	-4.9	28	7.6	30	3,148	11.8	-5.0	24	3.3	30	3,104	3.6	-5.0	26	6.3	30	3,069	2.1	-9.8	30	6.8	30	3,139	5.2	-4.3	29	10.7
650	30	3,700	.2	-8.8	28	8.7	30	3,763	6.8	-7.8	24	3.5	30	3,702	.0	-10.0	26	8.1	30	3,664	-1.0	-13.3	30	8.8	30	3,742	1.8	-8.4	29	11.5
600	30	4,337	-3.9	-13.2	28	9.9	30	4,414	1.3	-10.6	23	4.6	30	4,339	-3.9	-14.6	26	9.5	30	4,299	-4.6	-17.0	30	10.4	30	4,384	-1.5	-13.9	29	11.7
550	30	5,019	-7.9	-17.7	28	11.6	30	5,106	-4.5	-13.9	23	6.2	30	5,021	-7.7	-19.5	26	11.6	30	4,978	-8.6	-21.4	30	12.1	30	5,072	-5.4	-17.6	29	12.7
500	30	5,754	-12.7	-23.0	28	12.7	30	5,849	-10.1	-20.5	23	7.1	30	5,756	-12.4	-23.1	26	11.8	30	5,711	-13.6	-27.1	30	13.3	30	5,814	-9.8	-23.4	29	13.7
450	30	6,549	-18.2	-28.0	28	13.5	30	6,654	-15.3	-27.4	24	7.1	30	6,552	-17.9	-27.7	26	13.7	30	6,504	-19.0	-29.8	30	15.0	30	6,619	-15.0	-28.4	29	14.8
400	30	7,418	-24.5	-34.5	28	15.1	30	7,532	-21.8	-34.0	24	7.7	29	7,422	-24.3	-34.2	26	15.5	30	7,371	-25.2	-37.3	30	15.8	30	7,500	-21.1	-34.2	29	15.7
350	30	8,380	-31.9	-41.4	28	17.5	30	8,504	-29.2	-40.4	24	8.4	28	8,382	-31.7	-41.5	26	16.6	30	8,330	-32.2	-42.2	30	18.2	30	8,475	-28.0	-40.3	29	17.5
300	30	9,446	-40.5	-46.9	28	19.5	30	9,583	-38.2	-47.5	24	9.5	28	9,449	-40.5	-46.3	26	17.3	30	9,398	-39.8	-47.2	30	21.9	30	9,560	-36.3	-45.8	29	18.3
250	29	10,665	-49.6		28	21.5	30	10,811	-47.9		24	10.4	28	10,666	-50.1		25	18.8	30	10,621	-48.0		29	23.3	30	10,798	-46.2		29	20.0
200	29	12,098	-57.2		27	22.5	30	12,250	-57.6		24	11.3	28	12,096	-57.8		26	18.5	30	12,068	-55.5		29	24.5	30	12,247	-56.6		30	21.4
175	29	12,942	-57.0		28	19.7	30	13,087	-60.1		25	10.2	28	12,936	-58.2		26	18.7	30	12,914	-57.6		29	22.0	30	13,085	-61.2		30	22.5
150	29	13,919	-57.0		28	15.3	30	14,047	-61.3		25	10.7	28	13,907	-57.8		26	14.8	30	13,888	-57.5		29	18.1	30	14,034	-64.0		30	18.7
125	29	15,074	-56.8		28	11.8	29	15,174	-63.0		25	10.1	28	15,058	-57.4		26	10.3	30	15,038	-58.2		30	13.1	30	15,147	-65.6		30	13.4
100	29	16,486	-57.3		28	7.8	29	16,542	-64.0		25	4.5	28	16,467	-58.0		25	6.8	30	16,441	-58.8		30	8.5	30	16,507	-64.3		30	7.7
80	29	17,896	-57.4		29	3.2	27	17,913	-63.0		23	.4	28	17,873	-57.7		25	3.1	30	17,843	-58.2		32	5.0	30	17,876	-62.6		34	4.2
70	29	18,743	-56.2		30	1.6	27	18,739	-61.2		11	1.8	28	18,719	-56.5		26	.5	30	18,686	-57.1		33	3.4	30	18,704	-60.7		05	2.7
60	29	19,725	-55.1		04	.8	27	19,701	-58.7		09	3.5	28	19,699	-55.5		09	1.3	30	19,665	-55.8		36	2.3	30	19,669	-58.4		05	2.4
50	29	20,893	-53.9		07	3.4	26	20,853	-56.4		09	5.3	28	20,865	-54.0		09	3.0	30	20,830	-54.3		04	2.9	30	20,823	-56.0		08	6.0
40	29	22,333	-51.9		08	5.2	26	22,279	-53.7		09	6.1	27	22,303	-52.5		09	4.9	28	22,270	-52.5		07	4.6	30	22,250	-53.5		09	6.8
30	29	24,206	-49.9		09	7.7	25	24,140	-51.0		09	7.4	27	24,172	-50.1		09	7.5	28	24,139	-50.2		08	6.7	30	24,213	-50.7		09	7.3
25	28	25,408	-47.8		09	8.3	25	25,332	-49.1		09	8.1	27	25,368	-48.2		09	8.1	26	25,338	-48.5		08	7.0	30	25,305	-49.2		09	8.3
20	26	26,885	-45.6		09	8.6	22	26,812	-46.4		09	9.3	26	26,849	-45.7		09	8.9	24	26,809	-45.9		08	9.0	29	26,773	-46.6		09	9.7
15	26	28,816	-42.4		09	9.8	21	28,731	-43.3		09	10.7	23	28,786	-42.1		09	10.3	22	28,743	-42.3		08	9.8	28	28,696	-43.2		09	10.0
10	20	31,603	-35.8		09	10.4	12	31,511	-37.9		09	11.9	19	31,549	-36.7		09	10.7	19	31,518	-37.5		08	11.5	17	31,476	-38.4		09	14.2
7	9	34,078	-33.4																7	33,958	-34.2									

Standard pressure surface mb	* GUAM, MARIANA IS. 999 MB						HILO, HI 1016 MB						HUNTINGTON, WV 986 MB						* INTERNATIONAL FALLS, MN 971 MB						* ISLE DEL CISNE 1012 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	111	25.4	23.7	09	2.7	30	10	21.0	18.1	25	1.7	30	246	16.1	13.8	23	.8	30	359	12.0	10.1	28	.7	30	10	26.6	22.8	10	4.5
1000							30	148	21.6	18.2	27	.8													30	114	26.5	24.1	10	5.8
950	30	553	23.6	21.3	09	7.8	30	593	18.5	16.2	07	2.0	30	563	17.5	11.7	26	3.4	30	539	14.3	9.2	26	1.3	30	566	23.1	21.7	10	8.8
900	30	1,025	21.0	17.2	10	8.0	30	1,055	15.4	13.4	08	3.1	30	1,025	15.3	9.2	28	5.2	30	995	12.9	6.0	29	3.0	30	1,038	20.3	17.4	11	9.7
850	30	1,519	18.3	13.3	09	6.9	30	1,538	12.3	10.2	07	3.6	30	1,507	12.5	6.3	29	7.1	30	1,474	10.2	3.0	30	3.5	30	1,530	17.5	13.3	11	10.0
800	30	2,037	15.6	10.1	09	6.4	30	2,046	11.3	.2	07	4.4	30	2,015	10.1	2.9	29	9.1	30	1,976	7.2	-1.7	29	4.6	30	2,047	15.2	7.3	12	10.1
750	30	2,583	12.9	5.1	09	6.4	30	2,584	9.9	-6.0	08	4.7	30	2,549	7.2	-2.2	29	10.4	30	2,504	3.9	-5.3	30	6.4	30	2,592	12.3	2.5	12	9.0
700	30	3,160	9.9	-1.8	09	6.7	30	3,155	7.9	-11.1	09	4.2	30	3,115	4.6	-6.4	29	11.3	30	3,061	.7	-10.0	30	7.8	30	3,167	8.9	-1.7	12	8.3
650	30	3,773	6.8	-6.3	09	5.9	30	3,763	5.0	-13.7	11	2.9	30	3,715	1.2	-10.1	29	11.7	30	3,654	-1.9	-13.4	30	9.3	30	3,778	5.5	-5.9	13	7.5
600	30	4,426	2.8	-9.0	09	6.2	30	4,411	1.1	-17.6	11	2.0	30	4,355	-2.3	-15.2	30	12.8	30	4,287	-5.3	-16.9	29	10.8	30	4,428	1.9	-9.1	12	6.7
550	30	5,125	-1.2	-15.1	09	5.9	30	5,106	-2.7	-21.9	08	1.5	30	5,041	-6.3	-22.1	29	13.1	30	4,965	-9.3	-21.2	30	11.8	30	5,125	-2.1	-11.6	13	6.4
500	30	5,879	-5.7	-20.4	09	5.4	30	5,855	-7.0	-26.6	02	1.6	30	5,781	-10.7	-25.7	29	14.2	30	5,696	-13.9	-26.3	30	13.8	30	5,877	-6.4	-18.1	13	4.6
450	30	6,698	-10.6	-26.2	09	4.5	30	6,669	-12.5	-30.8	36	1.4	30	6,583	-15.9	-30.7	30	15.4	30	6,488	-19.2	-32.3	30	15.8	30	6,694	-11.3	-22.3	12	4.4
400	30	7,594	-16.3	-31.6	08	3.9	30	7,557	-19.2	-36.6	30	1.9	30	7,460	-22.1	-36.5	30	16.7	30	7,354	-25.5	-37.9	29	16.3	30	7,588	-17.1	-28.2	11	2.5
350	29	8,589	-23.1	-37.9	06	2.7	30	8,539	-26.5	-42.3	29	3.5	29	8,427	-29.3	-42.8	30	17.6	30	8,311	-32.9	-44.2	29	17.6	29	8,579	-24.2	-33.5	13	1.4
300	29	9,696	-31.8	-44.8	04	.7	29	9,630	-35.0	-49.5	28	6.0	29	9,507	-37.4	-48.0	30	15.7	30	9,374	-41.3	-46.8	29	20.7	28	9,682	-32.6	-41.6	27	.6
250	29	10,958	-41.7		27	1.1	29	10,876	-44.7		27	8.6	29	10,742	-46.3		29	22.2	30	10,590	-49.3		29	25.7	28	10,939	-42.9		28	2.4
200	28	12,432	-54.2		30	2.2	28	12,335	-55.7		26	11.3	29	12,193	-55.9		29	23.5	30	12,032	-55.4		29	28.1	28	12,405	-55.1		29	4.2
175	28	13,275	-61.1		30	2.7	28	13,175	-61.4		26	13.2	29	13,034	-60.1		30	24.8	30	12,883	-54.7		30	22.8	28	13,245	-61.8		30	5.4
150	28	14,215	-68.7		32	2.3	28	14,118	-66.8		27	13.3	29	13,990	-62.5		30	20.5	30	13,870	-54.7		29	17.6	28	14,183	-68.5		31	5.9
125	28	15,287	-75.8		03	1.6	28	15,206	-71.5		27	9.9	29	15,113	-62.9		30	14.5	30	15,036	-55.1		30	12.7	27	15,260	-73.8		35	4.2
100	26	16,563	-78.3		07	6.3	28	16,519	-72.6		26	4.3	29	16,488	-62.7		30	7.9	29	16,458	-55.8		30	7.9	26	16,556	-74.2		06	5.5
80	24	17,849	-74.7		08	8.7	27	17,838	-70.1		08	3.5	29	17,864	-62.1		32	3.2	29	17,880	-55.6		32	4.5	25	17,865	-71.1		09	7.5
70	22	18,628	-72.3		08	12.1	27	18,636	-67.8		09	7.8	29	18,695	-59.6		01	2.1	28	18,736	-55.0		34	3.0	24	18,660	-68.1		09	10.8
60	22	19,544	-68.4		09	16.2	27	19,572	-64.4		09	11.3	29	19,664	-57.5		06	2.8	28	19,724	-53.7		02	2.2	23	19,591	-64.7		09	14.0
50	22	20,652	-63.5		09	20.4	26	20,696	-60.6		09	14.2	29	20,822	-55.3		08	4.8	27	20,901	-52.2		06	3.7	23	20,718	-60.0		08	18.0
40	21	22,035	-59.0		09	24.4	26	22,094	-57.7		09	18.0	29	22,252	-53.6		08	6.0	27	22,349	-51.0		08	5.6	23	22,120	-57.2		09	21.1
30	21	23,864	-53.8		09	27.6	26	23,929	-53.3		09	21.0	28	24,117	-50.5		09	8.1	27	24,231	-48.6		08	7.9	23	23,961	-52.3		09	22.9
25	21	25,044	-50.7		09	28.2	25	25,110	-50.8		09	21.0	27	25,309	-48.6		09	8.6	26	25,434	-46.8		08	7.9	22	25,148	-50.1		09	22.2
20	17	26,513	-48.7		09	27.2	25	26,571	-48.4		09	20.6	27	26,786	-45.9		09	9.9	23	26,920	-44.4		09	9.3	20	26,610	-47.3		09	21.6
15	16	28,426	-44.6		09	22.3	24	28,477	-45.2		09	19.2	26	28,718	-42.2		09	10.7	20	28,862	-40.6		09	10.3	14	28,543	-42.2		09	20.3
10	9	31,165	-41.0				19	31,217	-40.5		09	19.4	15	31,477	-38.9		09	12.0	18	31,651	-35.6		09	12.1	10	31,326	-37.6			
7							5	33,631	-37.0										11	34,195	-29.6		08	13.5						
5																			7	36,650	-24.5									

Standard pressure surface mb	JACKSON, MS 1005 MB						JOHN F. KENNEDY INT. AP NY 1012 MB						JOHNSTON IS., PACIFIC AREA 1015 MB						KEY WEST, FL 1017 MB						KING SALMON, AK 1011 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	21.6	18.7	19	1.5	29	5	17.8	12.6	29	.5	30	3	25.7	21.6	08	8.2	30	3	26.7	23.3	13	2.1	24	15	7.1	5.1	19	2.6
1000	29	140	22.0	19.0	22	2.2	28	112	17.7	11.9	28	2.6	30	132	24.1	20.5	08	8.5	30	149	26.0	22.7	13	3.1	24	108	7.1	4.8	19	2.6
950	30	588	22.9	16.2	25	5.2	29	546	15.9	9.5	29	5.4	30	580	20.5	18.6	08	9.5	30	600	22.7	19.5	14	4.1	24	530	6.8	3.2	18	2.5
900	30	1,058	20.4	12.5	24	3.5	29	1,004	13.2	7.5	31	6.2	30	1,046	17.4	14.6	09	10.1	30	1,071	20.3	14.2	14	3.5	24	974	5.5	-.7	16	1.6
850	30	1,549	17.3	9.0	23	3.6	29	1,482	10.1	4.6	30	7.0	30	1,533	14.3	10.4	08	9.3	30	1,563	17.7	8.9	14	3.0	24	1,439	2.7	-2.1	13	2.1
800	30	2,065	14.2	4.2	24	4.0	29	1,985	7.3	1.7	30	7.4	30	2,044	12.3	3.1	08	8.0	30	2,079	14.6	5.1	14	2.9	24	1,927	-.4	-4.2	13	3.3
750	30	2,607	10.9	-1.1	25	4.0	29	2,514	4.8	-4.1	29	9.3	30	2,584	11.3	-5.8	09	6.6	30	2,622	11.3	1.8	14	2.8	24	2,440	-3.7	-7.1	11	2.8
700	30	3,178	7.3	-6.0	27	4.0	29	3,074	1.9	-8.5	29	9.9	30	3,158	9.8	-12.1	09	5.7	30	3,195	7.9	-2.3	14	2.4	24	2,982	-6.8	-13.3	10	3.8
650	30	3,785	4.0	-11.1	26	4.0	29	3,669	-1.0	-11.8	28	10.7	30	3,770	6.9	-14.7	09	5.6	30	3,803	4.5	-7.2	12	1.6	24	3,558	-9.9	-18.6	11	3.5
600	30	4,431	.1	-14.0	27	3.7	29	4,304	-4.5	-17.0	29	13.1	30	4,423	3.3	-17.8	08	5.8	30	4,451	1.0	-11.3	11	1.5	24	4,170	-13.9	-23.1	13	3.2
550	30	5,123	-4.1	-17.9	28	4.3	29	4,984	-8.4	-21.2	29	14.8	30	5,123	-1.1	-21.3	08	5.2	30	5,146	-2.7	-16.6	11	.8	24	4,826	-18.3	-28.8	13	2.9
500	30	5,867	-9.1	-22.7	27	4.6	29	5,718	-12.9	-26.9	29	17.7	30	5,875	-6.4	-25.7	08	5.2	30	5,895	-7.4	-20.0	32	.3	24	5,530	-23.2	-33.8	13	2.8
450	30	6,675	-14.2	-27.3	28	5.2	29	6,513	-18.4	-32.1	29	19.5	30	6,690	-11.8	-29.8	08	4.6	30	6,709	-12.5	-22.9	25	1.3	24	6,294	-28.8	-40.1	13	2.3
400	30	7,559	-20.1	-33.6	29	5.5	28	7,377	-24.7	-36.4	30	23.7	30	7,581	-18.3	-34.7	07	3.3	30	7,598	-18.4	-30.5	26	2.2	24	7,126	-35.1	-46.7	12	1.6
350	30	8,538	-27.0	-40.1	29	5.4	28	8,337	-32.0	-41.3	30	26.3	30	8,567	-25.5	-41.3	06	.9	30	8,584	-25.3	-36.6	27	2.4	24	8,047	-41.6	-48.4	08	.7
300	30	9,628	-35.3	-47.8	29	5.7	28	9,406	-39.7	-46.1	30	28.8	30	9,664	-33.7	-48.0	29	4.5	30	9,682	-33.6	-44.3	26	4.0	24	9,074	-48.5		03	1.7
250	30	10,873	-45.0		28	6.8	28	10,630	-47.9		30	27.5	30	10,917	-43.3		28	9.6	30	10,935	-43.6		27	5.8	24	10,259	-52.9		06	1.0
200	30	12,327	-56.1		29	7.6	28	12,078	-54.9				30	12,382	-54.5		28	14.6	30	12,397	-55.3		28	6.6	24	11,718	-47.4		20	.9
175	30	13,166	-61.4		28	8.2	28	12,927	-57.1				30	13,225	-60.9		28	15.0	30	13,237	-61.6		29	5.6	24	12,603	-46.6		14	.8
150	30	14,112	-65.8		29	8.0	28	13,902	-57.4				30	14,168	-67.5		27	13.2	30	14,179	-67.4		[illegible]	5.1	24	13,626	-46.9		14	1.5
125	30	15,210	-69.2		29	7.9	27	15,050	-58.2				30	15,250	-73.7		27	9.8	30	15,265	-71.3		33	3.6	24	14,832	-47.5		12	2.1
100	30	16,539	-69.4		32	5.0	27	16,453	-58.6				30	16,542	-75.8		31	3.3	30	16,581	-71.7		02	3.2	24	16,307	-47.6		12	[illegible]
80	30	17,880	-66.2		04	3.1	27	17,856	-58.4				30	17,846	-71.5		08	5.3	30	17,906	-68.5		07	5.6	24	17,781	-47.9		11	3.2
70	30	18,695	-63.7		06	3.4	27	18,699	-57.2				30	18,640	-69.0		09	8.9	30	18,712	-65.8		08	7.4	24	18,662	-47.9		10	3.7
60	30	19,647	-60.7		07	4.9	27	19,677	-55.6				30	19,570	-65.2		09	13.3	30	19,658	-61.9		08	10.3	24	19,679	-47.9		[illegible]	4.3
50	30	20,791	-57.7		08	7.1	27	20,843	-54.2		09	7.0	30	20,691	-61.7		09	16.3	30	20,796	-58.4		09	13.7	24	20,882	-48.0		10	4.4
40	30	22,209	-54.8		08	8.7	27	22,280	-52.5		09	8.2	30	22,087	-57.9		09	20.6	30	22,211	-55.4		09	16.0	24	22,355	-47.7		09	6.1
30	30	24,062	-51.9		09	9.1	27	24,151	-49.8		10	10.0	30	23,919	-53.7		09	24.7	28	24,064	-50.8		09	15.3	24	24,259	-46.7		09	7.3
25	30	25,249	-49.8		09	10.3	27	25,349	-47.8		09	11.0	30	25,098	-51.2		09	24.5	28	25,258	-48.6		09	14.4	24	25,470	-45.7		09	8.6
20	30	26,720	-46.6		09	10.7	26	26,832	-45.2		09	11.6	28	26,557	-48.6		09	23.8	28	26,733	-46.5		09	14.6	24	26,965	-43.5		09	9.2
15	29	28,643	-44.1		09	11.2	19	28,752	-42.2				27	28,465	-44.7		09	23.1	27	28,658	-43.7		08	17.8	24	28,914	-40.1		09	10.6
10	24	31,386	-39.6		08	15.3	14	31,528	-37.1				23	31,209	-40.6		09	18.0	11	31,419	-38.7				11	31,745	-33.8			
7	14	33,879	-34.0		09	18.1							5	33,651	-38.3															

RAWINSONDE DATA

Average monthly values

+ KOROR, CAROLINE IS.
1006 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	30	27.9	24.8	09	1.5
1000	30	86	26.9	24.5	09	1.7
950	30	539	23.7	22.0	09	2.5
900	30	1,012	20.8	18.8	10	3.6
850	30	1,505	17.9	14.8	09	4.2
800	30	2,024	15.8	11.6	09	4.5
750	30	2,571	13.2	7.9	10	4.9
700	30	3,149	10.1	3.8	10	5.6
650	30	3,763	6.7	.6	10	5.9
600	30	4,416	2.9	-3.6	10	6.7
550	30	5,116	-1.0	-7.5	09	6.4
500	29	5,872	-5.2	-13.2	09	6.3
450	29	6,693	-9.7	-18.9	09	6.5
400	29	7,593	-15.3	-25.7	10	6.7
350	29	8,592	-22.0	-33.1	09	6.1
300	29	9,704	-30.4	-40.7	09	5.2
250	29	10,972	-40.8		09	4.8
200	29	12,449	-53.6		09	5.6
175	29	13,294	-60.7		08	6.7
150	29	14,236	-68.4		07	7.6
125	29	15,310	-75.4		07	6.8
100	29	16,589	-78.5		07	5.6
80	29	17,873	-75.0		08	7.7
70	29	18,655	-70.9		09	9.8
60	29	19,575	-68.2		09	13.9
50	29	20,682	-63.2		09	21.6
40	28	22,071	-58.7		09	28.8
30	28	23,903	-53.1		09	34.3
25	28	25,089	-49.4		09	32.5
20	27	26,570	-44.2		09	24.5
15	26	28,518	-41.2		10	12.4
10	23	31,294	-36.[illegible]		09	6.3
7	12	33,760	-34.5			
5						

KOTZEBUE, AK
1012 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	25	5	5.5	3.2	29	3.9
1000	25	101	8.4	2.3	30	3.3
950	25	527	9.8	1.3	33	.6
900	25	974	7.2	-1.0	20	1.1
850	25	1,442	3.[illegible]	-3.2	19	2.3
800	25	1,931	.5	-7.4	19	2.7
750	25	2,446	-2.8	-11.8	17	2.[illegible]
700	25	2,990	-5.9	-16.3	17	3.0
650	25	3,567	-9.3	-20.4	18	3.4
600	25	4,181	-13.[illegible]	-24.0	17	3.9
550	25	4,837	-18.1	-29.3	17	5.2
500	25	5,541	-23.3	-35.2	18	5.5
450	25	6,304	-28.9	-39.7	18	5.[illegible]
400	25	7,135	-35.6	-44.8	18	6.3
350	25	8,054	-42.4		18	7.1
300	25	9,076	-49.5		17	7.3
250	25	10,258	-52.7		16	5.6
200	25	11,723	-45.9		14	4.1
175	25	12,613	-45.5		13	3.3
150	25	13,641	-45.7		12	3.3
125	25	14,854	-46.3		11	3.5
100	25	16,335	-46.5		10	3.6
80	24	17,814	-46.5		10	3.[illegible]
70	24	18,702	-46.3		09	3.6
60	23	19,728	-46.0		09	4.3
50	22	20,943	-45.7		09	5.5
40	21	22,432	-45.0		09	6.7
30	20	24,362	-44.4		08	7.5
25	19	25,589	-43.0		09	[illegible].9
20	17	27,101	-41.2		09	9.5
15	17	29,071	-37.7		08	10.1
10	16	31,897	-32.7		09	10.9
7	7	34,470	-27.3			
5	5	36,917	-23.9			

LAKE CHARLES, LA
1015 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	23.1	21.7	14	.5
1000	30	140	25.0	21.[illegible]	19	2.3
950	30	590	22.7	17.9	20	5.0
900	30	1,060	20.1	12.9	20	5.[illegible]
850	30	1,552	17.4	8.1	19	4.[illegible]
800	30	2,068	14.9	1.8	19	3.9
750	30	2,611	11.7	-2.1	19	3.[illegible]
700	30	3,184	8.2	-6.3	20	2.1
650	30	3,792	4.4	-9.[illegible]	18	2.5
600	30	4,439	.7	-13.6	19	2.3
550	30	5,133	-3.8	-17.2	16	1.4
500	30	5,878	-8.7	-22.1	21	.[illegible]
450	30	6,687	-13.9	-27.9	19	1.4
400	29	7,569	-19.5	-34.5	24	1.[illegible]
350	29	8,550	-26.8	-40.[illegible]	25	2.1
300	29	9,640	-35.2	-47.9	26	3.4
250	29	10,886	-44.6		27	4.4
200	29	12,345	-55.2		28	5.4
175	29	13,188	-59.9		28	[illegible].8
150	29	14,139	-64.6		28	[illegible].5
125	29	15,241	-69.0		29	[illegible].4
100	29	16,566	-70.6		33	4.1
80	29	17,896	-68.2		05	4.6
70	29	18,705	-64.4		07	5.[illegible]
60	29	19,655	-60.9		08	6.4
50	29	20,798	-57.5		08	[illegible].2
40	29	22,215	-55.2		09	[illegible].3
30	29	24,067	-51.9		09	10.[illegible]
25	28	25,251	-49.8		09	10.9
20	26	26,720	-47.4		09	11.4
15	22	28,634	-43.5		09	12.2
10	19	31,387	-39.6		08	15.1
7	5	33,863	-35.5			
5						

LANDER, WY
831 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,697	14.0	3.8	23	1.6
1000						
950						
900						
850						
800	30	2,018	15.5	3.2	29	1.[illegible]
750	30	2,563	12.4	.6	28	1.2
700	30	3,138	8.7	-3.1	26	3.4
650	30	3,747	4.5	-6.6	26	7.4
600	30	4,393	-.[illegible]	-10.7	26	10.9
550	30	5,083	-5.7	-15.4	25	12.1
500	30	5,822	-11.3	-21.1	25	12.5
450	30	6,623	-16.6	-28.4	25	12.6
400	30	7,497	-22.9	-35.8	25	12.[illegible]
350	30	8,464	-30.4	-41.8	25	14.5
300	30	9,538	-39.[illegible]	-48.6	26	16.2
250	30	10,761	-49.3		26	16.[illegible]
200	29	12,195	-58.8		26	18.[illegible]
175	29	13,029	-60.8		26	18.0
150	29	13,988	-60.9		26	15.[illegible]
125	29	15,120	-61.1		26	12.3
100	29	16,501	-62.4		25	6.8
80	29	17,881	-61.2		22	.4
70	29	18,713	-59.7		09	2.2
60	29	19,681	-58.1		08	3.8
50	29	20,836	-55.[illegible]		08	6.4
40	29	22,263	-53.8		08	8.5
30	29	24,124	-51.1		08	10.[illegible]
25	28	25,318	-49.1		08	11.2
20	27	26,792	-46.4		09	12.[illegible]
15	27	28,716	-43.[illegible]		08	12.8
10	15	31,468	-38.0		09	14.3
7						
5						

*** LIHUE KAUAI, HI**
1014 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	36	23.4	20.3	05	4.9
1000	30	161	22.4	18.9	06	6.1
950	30	606	18.8	16.8	06	7.9
900	30	1,069	15.4	12.8	07	7.9
850	30	1,552	12.5	9.1	07	8.0
800	30	2,061	12.1	.6	08	8.1
750	30	2,599	10.0	-6.6	08	7.8
700	30	3,170	7.8	-10.9	08	6.7
650	30	3,778	4.9	-14.8	07	5.6
600	30	4,427	1.8	-17.6	06	4.7
550	30	5,123	-2.1	-21.7	05	5.5
500	30	5,874	-6.7	-25.7	05	5.6
450	30	6,688	-12.2	-30.4	04	5.2
400	30	7,577	-19.2	-35.7	03	4.2
350	30	8,558	-27.0	-43.0	03	4.3
300	30	9,647	-35.6	-50.5	02	5.0
250	30	10,890	-45.4		36	5.3
200	30	12,341	-56.6		36	5.0
175	30	13,177	-62.1		35	5.3
150	30	14,118	-67.2		33	5.5
125	30	15,205	-71.2		32	4.7
100	30	16,522	-71.7		33	1.4
80	30	17,846	-69.0		07	2.7
70	30	18,650	-66.2		08	6.4
60	30	19,591	-63.4		09	10.1
50	30	20,720	-60.2		09	12.7
40	30	22,122	-57.1		09	15.5
30	30	23,958	-53.6		09	18.2
25	29	25,139	-50.9		09	19.3
20	29	26,600	-48.6		09	19.2
15	27	28,507	-45.3		09	18.7
10	25	31,236	-40.9		09	18.7
7	13	33,690	-36.9			
5						

LITTLE ROCK, AR
996 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	79	22.2	18.0	22	1.1
1000						
950	30	588	23.2	15.6	24	6.5
900	30	1,058	20.3	12.7	25	6.6
850	30	1,550	17.2	9.[illegible]	26	5.9
800	30	2,065	14.0	5.0	26	5.6
750	30	2,607	10.7	.5	26	5.5
700	30	3,179	7.4	-3.5	26	5.6
650	30	3,785	3.7	-5.9	26	5.6
600	30	4,431	-.2	-11.5	27	5.6
550	30	5,122	-4.5	-16.3	27	5.9
500	30	5,866	-9.2	-23.7	27	5.6
450	30	6,673	-14.5	-29.2	28	4.9
400	30	7,555	-20.4	-35.1	29	5.5
350	30	8,533	-27.6	-40.4	29	6.0
300	30	9,621	-35.7	-48.4	30	6.8
250	30	10,862	-45.6		30	8.6
200	30	12,313	-56.6		30	11.1
175	30	13,150	-61.7		30	10.2
150	30	14,096	-65.5		29	10.2
125	30	15,198	-68.0		29	9.5
100	30	16,537	-68.1		32	5.6
80	30	17,885	-65.2		02	2.8
70	30	18,702	-63.0		05	3.5
60	30	19,658	-60.2		07	4.9
50	30	20,803	-57.3		09	5.9
40	30	22,223	-54.8		09	6.[illegible]
30	30	24,078	-51.9		09	8.3
25	30	25,265	-49.8		08	9.4
20	30	26,736	-46.6		09	9.5
15	28	28,656	-43.3		09	11.3
10	24	31,420	-37.7		09	15.0
7	10	33,894	-32.8			

LONGVIEW, TX
1001 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	124	22.5	20.1	20	[illegible].1
1000	22	141	23.0	21.3	20	2.9
950	30	582	22.2	16.6	21	7.5
900	30	1,052	20.5	11.8	22	7.[illegible]
850	30	1,544	17.7	6.9	22	5.[illegible]
800	30	2,060	14.8	2.6	22	5.[illegible]
750	30	2,603	11.7	-1.5	22	4.3
700	30	3,176	8.1	-5.2	22	3.5
650	30	3,785	4.5	-7.7	21	3.1
600	30	4,432	.6	-12.8	23	2.2
550	30	5,124	-4.1	-16.9	24	3.1
500	30	5,869	-9.2	-22.0	23	2.4
450	30	6,677	-14.0	-27.5	23	3.0
400	30	7,561	-19.9	-34.5	26	2.[illegible]
350	30	8,541	-26.9	-40.8	26	2.2
300	30	9,632	-35.2	-47.3	27	2.7
250	30	10,877	-44.9		28	3.[illegible]
200	30	12,334	-55.6		29	4.[illegible]
175	30	13,175	-60.5		29	5.8
150	30	14,125	-65.0		29	7.0
125	30	15,226	-68.7		28	6.3
100	30	16,557	-69.8		33	4.7
80	30	17,893	-67.0		05	3.3
70	30	18,706	-63.9		07	4.7
60	29	19,660	-60.8		08	5.8
50	29	20,803	-57.6		08	7.1
40	29	22,221	-55.1		09	8.9
30	28	24,071	-51.6		09	8.8
25	27	25,257	-49.4		09	9.3
20	26	26,726	-47.1		09	10.0
15	24	28,643	-44.[illegible]		09	10.7
10	21	31,394	-39.0		09	15.2
7	7	33,849	-34.8			

MCGRATH, AK
1000 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	103	10.3	4.1	27	.9
1000	15	135	12.3	3.7	28	.5
950	30	532	11.7	2.1	33	1.[illegible]
900	30	982	8.6	.5	31	.[illegible]
850	30	1,452	4.9	-1.1	19	.8
800	30	1,943	1.2	-3.4	19	1.[illegible]
750	30	2,459	-2.6	-7.2	18	[illegible].3
700	30	3,003	-6.1	-12.1	19	2.1
650	30	3,580	-9.6	-17.7	17	1.[illegible]
600	30	4,193	-13.7	-23.3	16	1.9
550	30	4,849	-18.0	-29.[illegible]	15	2.5
500	30	5,555	-23.0	-34.7	16	2.[illegible]
450	30	6,318	-28.6	-39.8	14	3.2
400	30	7,151	-35.0	-45.4	13	3.4
350	28	8,070	-42.1		12	3.5
300	28	9,094	-49.4		11	2.7
250	28	10,273	-53.9		11	1.3
200	28	11,730	-47.3		14	2.5
175	28	12,616	-46.3		13	2.3
150	28	13,640	-46.6		12	3.0
125	28	14,849	-47.1		12	3.0
100	28	16,325	-47.4		12	3.3
80	28	17,800	-47.6		10	3.9
70	28	18,683	-47.4		11	3.9
60	28	19,703	-47.3		10	4.[illegible]
50	28	20,910	-47.0		10	[illegible].0
40	28	22,391	-46.4		09	6.4
30	27	24,302	-45.6		09	7.9
25	27	25,521	-44.3		09	8.8
20	26	27,023	-42.3		09	[illegible].5
15	26	28,984	-38.6		09	10.4
10	23	31,812	-32.8		09	11.6
7	11	34,419	-26.6		08	15.0

+ MAJURO, MARSHALL IS.
1011 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	3	28.9	24.7	07	4.6
1000	30	96	27.3	23.5	08	5.5
950	30	549	23.[illegible]	21.8	08	8.[illegible]
900	30	1,021	20.9	18.4	08	7.4
850	30	1,515	18.[illegible]	15.1	09	7.3
800	30	2,034	16.0	11.0	09	6.[illegible]
750	30	2,582	13.4	7.3	09	7.0
700	30	3,160	10.5	3.5	09	6.2
650	30	3,775	7.1	-.8	09	5.6
600	30	4,430	3.[illegible]	-4.8	09	[illegible].1
550	30	5,131	-.5	-9.5	09	[illegible].7
500	30	5,888	-4.8	-14.7	09	5.8
450	30	6,710	-9.3	-19.7	09	5.[illegible]
400	30	7,612	-14.9	-26.8	10	4.[illegible]
350	30	8,612	-21.6	-34.3	11	4.9
300	30	9,726	-29.[illegible]	-42.0	11	3.4
250	30	10,998	-40.[illegible]	-50.0	14	2.6
200	30	12,480	-52.7		18	2.5
175	29	13,329	-59.[illegible]		19	2.2
150	29	14,276	-67.[illegible]		21	1.5
125	29	15,355	-74.[illegible]		25	2.2
100	29	16,634	-77.9		24	.5
80	29	17,922	-73.4		09	4.[illegible]
70	29	18,710	-70.6		09	7.1
60	29	19,634	-66.6		09	12.4
50	29	20,751	-61.5		09	20.[illegible]
40	29	22,148	-57.5		09	26.[illegible]
30	28	23,986	-52.4		09	31.2
25	28	25,175	-48.3		09	29.6
20	26	26,662	-43.5		09	17.5
15	26	28,613	-39.8		09	8.7
10	12	31,404	-36.8			
7						

*** MEDFORD, OR**
970 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	29	401	13.5	8.[illegible]	34	.2
1000						
950	29	575	15.4	[illegible].0	30	.9
900	29	1,033	13.8	6.4	30	1.0
850	29	1,513	12.0	4.0	36	.5
800	29	2,020	10.7	.[illegible]	34	.9
750	29	2,556	8.5	-3.5	26	2.0
700	29	3,123	5.2	-6.[illegible]	23	3.9
650	29	3,725	1.5	-11.0	24	5.1
600	29	4,365	-2.3	-16.[illegible]	25	6.2
550	29	5,050	-6.8	-20.8	25	7.4
500	29	5,787	-11.6	-24.7	25	8.9
450	28	6,581	-17.2	-29.[illegible]	25	10.1
400	28	7,453	-23.6	-34.3	24	10.6
350	27	8,422	-30.9	-40.6	24	11.0
300	27	9,494	-39.7	-47.6	24	12.3
250	27	10,713	-49.9		24	12.3
200	27	12,139	-58.9		25	13.1
175	27	12,973	-60.1		25	12.4
150	27	13,933	-61.0		24	12.1
125	27	15,067	-60.6		24	9.9
100	27	16,458	-60.3		23	6.5
80	26	17,850	-59.4		21	3.4
70	25	18,688	-58.5		16	2.0
60	25	19,659	-57.4		11	2.9
50	25	20,816	-55.8		10	4.0
40	24	22,240	-54.0		09	5.3
30	23	24,094	-51.7		09	7.1
25	21	25,287	-49.1		09	8.3
20	20	26 757	-46.2		08	10.3
15	16	28,673	-43.1		09	11.2
10	15	31,449	-36.9		09	12.7
7	6	33,912	-33.0			

MERIDA, MEXICO
1013 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	11	23.2	22.7	10	1.3
1000	30	122	24.1	22.7	11	4.2
950	30	572	22.6	19.4	12	9.4
900	30	1,042	20.3	15.0	12	8.8
850	30	1,535	18.0	[illegible].5	12	7.9
800	30	2,053	15.6	3.7	12	6.4
750	30	2,597	12.5	.1	12	[illegible].6
700	30	3,173	9.1	-3.5	12	[illegible].3
650	30	3,783	5.5	-6.9	11	5.4
600	30	4,433	1.6	-10.7	11	4.8
550	30	5,129	-2.5	-15.4	11	4.1
500	30	5,879	-7.0	-19.1	10	3.9
450	30	6,694	-12.[illegible]	-23.9	10	2.8
400	30	7,584	-18.1	-29.9	09	1.4
350	30	8,572	-24.7	-37.1	25	.7
300	30	9,673	-32.7	-44.5	24	3.5
250	30	10,931	-42.7		24	4.5
200	30	12,399	-54.7		26	6.5
175	30	13,242	-60.8		27	8.5
150	29	14,186	-67.5		29	7.2
125	29	15,270	-72.3		34	4.4
100	29	16,572	-74.3		04	5.5
80	29	17,881	-70.8		08	9.2
70	29	18,678	-67.8		08	10.2
60	29	19,615	-63.9		09	11.3
50	28	20,745	-60.2		08	14.6
40	28	22,149	-56.8		08	17.3
30	24	23,987	-52.7		09	19.0
25	26	25,170	-50.7		09	19.6
20	26	26,636	-47.2		09	20.2
15	23	28,558	-43.9		08	20.4
10	14	31,295	-40.5			
7						
5						

MIDLAND, TX
915 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	874	20.4	14.8	16	3.0
1000						
950						
900	30	1,018	21.4	15.7	17	[illegible].6
850	30	1,515	21.0	10.8	19	7.8
800	30	2,038	18.9	5.6	19	4.0
750	30	2,589	15.3	1.5	17	1.9
700	30	3,169	11.1	-3.4	12	1.6
650	30	3,783	6.5	-7.0	08	1.9
600	30	4,434	1.5	-11.4	04	2.3
550	30	5,128	-3.7	-16.1	03	2.[illegible]
500	30	5,874	-8.8	-21.7	04	1.5
450	30	6,682	-13.8	-28.1	16	.4
400	30	7,568	-19.4	-33.6	23	1.2
350	30	8,549	-26.8	-39.4	26	2.2
300	30	9,639	-35.2	-47.1	27	4.1
250	30	10,885	-44.7		28	6.4
200	30	12,342	-55.2		27	9.6
175	30	13,186	-59.5		27	10.3
150	30	14,141	-63.5		27	9.[illegible]
125	30	15,249	-68.0		27	8.2
100	30	16,581	-69.6		27	2.8
80	30	17,917	-67.3		07	[illegible].5
70	30	18,727	-64.8		08	5.0
60	30	19,676	-61.1		09	6.3
50	30	20,819	-57.5		09	7.5
40	30	22,237	-55.0		09	8.5
30	30	24,090	-51.6		09	9.[illegible]
25	30	25,278	-49.8		09	9.[illegible]
20	29	26,744	-47.3		09	10.1
15	29	28,661	-43.[illegible]		09	10.5
10	28	31,411	-39.3		09	15.8
7	14	33,875	-34.0		09	18.5
5	5	36,235	-30.4			

MONTERREY, MEXICO
962 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	24	423	22.0	20.3	12	1.4
1000						
950	24	564	21.8	20.0	13	2.2
900	24	1,033	19.5	16.9	15	4.7
850	24	1,526	18.6	12.0	15	[illegible].6
800	24	2,046	17.2	5.5	15	3.9
750	24	2,594	14.1	1.1	17	1.2
700	24	3,173	10.4	-3.3	09	.2
650	24	3,785	6.2	-7.4	36	1.1
600	24	4,436	1.5	-10.[illegible]	03	1.1
550	24	5,131	-3.0	-15.2	09	.8
500	24	5,880	-7.6	-22.7	13	1.2
450	24	6,692	-12.7	-26.2	10	1.2
400	24	7,581	-18.4	-32.1	05	.1
350	24	8,568	-25.0	-39.1	29	1.9
300	24	9,667	-33.3	-46.2	28	4.1
250	24	10,921	-43.2		28	[illegible].0
200	24	12,387	-54.6		28	[illegible]
175	23	13,228	-60.5		28	5.7
150	23	14,174	-66.5		28	4.7
125	22	15,263	-72.0		30	2.[illegible]
100	22	16,567	-73.3		05	1.[illegible]
80	22	17,883	-69.7		07	6.3
70	22	18,686	-66.6		08	8.3
60	22	19,627	-62.9		09	11.0
50	22	20,761	-59.[illegible]		09	11.[illegible]
40	22	22,170	-55.9		09	13.4
30	21	24,021	-51.4		09	14.2
25	21	25,208	-50.5		09	14.[illegible]
20	21	26,669	-48.6		09	15.0
15	21	28,577	-44.6		08	17.2
10	17	31,326	-39.5		09	20.9
7						
5						

MONETT, MO
965 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	438	19.1	17.0	16	1.6
1000						
950	30	572	21.4	16.5	21	3.[illegible]
900	30	1,042	20.[illegible]	14.0	25	7.1
850	30	1,533	17.1	10.6	26	[illegible].2
800	30	2,049	14.2	7.1	27	5.[illegible]
750	30	2,591	11.2	2.0	26	5.7
700	30	3,165	[illegible].0	-3.8	27	5.4
650	29	3,772	4.3	-8.9	28	5.6
600	29	4,419	.4	-14.6	29	5.[illegible]
550	29	5,111	-3.9	-19.1	29	[illegible]
500	29	5,856	-8.9	-23.7	29	[illegible].5
450	29	6,664	-14.2	-29.7	29	7.0
400	29	7,547	-20.[illegible]	-34.7	29	[illegible]
350	29	8,525	-27.3	-39.1	30	9.2
300	29	9,613	-35.7	-47.0	30	10.[illegible]
250	29	10,856	-45.5		30	11.[illegible]
200	29	12,307	-56.2		29	12.[illegible]
175	29	13,146	-61.1		29	15.0
150	29	14,094	-64.5		29	13.1
125	28	15,204	-65.5		29	11.[illegible]
100	28	16,557	-66.5		31	6.[illegible]
80	28	17,913	-64.3		36	2.3
70	28	18,735	-61.9		05	3.0
60	28	19,695	-59.3		07	4.8
50	28	20,845	-56.4		08	5.1
40	27	22,267	-54.5		08	6.6
30	27	24,122	-51.[illegible]		08	7.8
25	26	25,313	-48.8		09	8.[illegible]
20	26	26,787	-46.6		09	8.3
15	25	28,714	-42.6		09	11.0
10	19	31,477	-37.7		09	13.6
7						
5						

NASHVILLE, TN
995 MB

Standard pressure (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	180	18.9	16.[illegible]	20	.4
1000						
950	30	579	20.7	13.[illegible]	27	3.9
900	30	1,046	18.5	11.5	28	6.1
850	30	1,534	15.4	[illegible].1	28	7.6
800	30	2.046	12.5	5.2	28	8.7
750	30	2,586	9.7	.[illegible]	29	9.3
700	30	3,156	6.1	-3.0	28	9.6
650	30	3,760	2.7	-8.0	29	10.0
600	30	4,403	-1.1	-11.7	30	10.6
550	30	5,092	-5.3	-16.8	30	11.5
500	30	5,835	-9.4	-23.6	29	11.7
450	30	6,641	-14.6	-28.9	29	12.6
400	30	7,523	-20.5	-35.5	30	13.2
350	30	8,500	-27.5	-39.7	29	13.8
300	30	9,587	-36.1	-47.2	30	15.8
250	30	10,828	-45.7		29	17.1
200	30	12,280	-56.1		30	16.3
175	30	13,118	-61.1		29	16.4
150	30	14,065	-65.2		29	17.5
125	30	15,172	-66.4		30	12.3
100	30	16,523	-65.9		31	6.3
80	30	17,885	-63.3		35	2.5
70	30	18,709	-61.7		02	2.7
60	30	19,671	-59.1		06	4.0
50	30	20,822	-56.2		08	5.3
40	30	22,247	-54.0		08	6.3
30	29	24,105	-51.1		09	8.1
25	28	25,296	-49.6		09	8.8
20	28	26,768	-46.2		09	10.5
15	27	28,691	-43.5		09	10.7
10	23	31,433	-38.9		09	13.1
7	18	33,908	-34.0		08	13.9
5						

RAWINSONDE DATA

Average monthly values

* NOME, AK
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	5.3	1.7	01	.7
1000	30	108	6.8	2.1	02	.[illegible]
950	30	530	6.8	-.5	12	.6
900	30	973	4.7	-2.7	17	1.5
850	30	1,436	1.[illegible]	-6.3	18	2.9
800	30	1,924	-.4	-9.1	18	3.2
750	30	2,437	-3.5	-11.3	19	3.7
700	30	2,979	-6.9	-15.3	19	4.1
650	30	3,554	-10.[illegible]	-19.4	18	4.3
600	30	4,165	-14.3	-23.4	18	5.0
550	30	4,819	-18.8	-28.5	18	5.7
500	30	5,523	-23.9	-33.4	18	6.5
450	30	6,284	-29.3	-39.4	17	7.3
400	30	7,114	-35.5	-44.0	17	7.9
350	30	8,034	-41.8	-46.4	18	8.3
300	30	9,061	-48.3		19	7.7
250	30	10,248	-51.9		19	4.9
200	30	11,715	-46.0		15	2.7
175	30	12,605	-45.4		13	2.7
150	30	13,633	-45.8		12	2.8
125	30	14,845	-46.6		11	3.0
100	30	16,325	-46.8		10	3.9
80	30	17,805	-46.[illegible]		10	3.8
70	30	18,691	-46.[illegible]		10	4.5
60	30	19,714	-46.6		09	4.9
50	30	20,925	-46.1		09	5.4
40	29	22,411	-45.7		09	6.6
30	28	24,332	-44.6		09	7.[illegible]
25	28	25,556	-43.4		09	9.5
20	25	27,063	-41.6		09	9.5
15	19	29,038	-38.2		09	11.2
10	14	31,867	-32.[illegible]		09	10.2
7						

NORTH PLATTE, NE
917 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	847	15.9	12.0	06	.8
1000						
950						
900	30	1,010	18.4	13.2	14	1.1
850	30	1,501	18.5	8.5	18	2.3
800	30	2,020	16.3	5.3	24	2.7
750	30	2,567	13.3	2.6	25	4.2
700	30	3,143	9.3	-.7	25	4.7
650	30	3,754	5.1	-4.[illegible]	26	5.6
600	30	4,402	.5	-9.3	28	6.5
550	30	5,094	-4.5	-14.3	28	7.6
500	30	5,838	-9.8	-19.6	28	9.4
450	30	6,643	-15.2	-27.7	28	9.7
400	29	7,523	-21.2	-34.3	28	9.9
350	29	8,497	-28.5	-40.2	28	10.9
300	29	9,579	-37.3	-48.2	28	12.1
250	29	10,812	-47.3		27	14.4
200	29	12,253	-57.9		26	15.3
175	29	13,086	-61.9		26	15.2
150	29	14,037	-63.3		27	15.1
125	29	15,160	-63.2		28	10.2
100	29	16,533	-63.0		28	6.0
80	29	17,909	-61.7		32	2.3
70	29	18,738	-60.7		03	1.[illegible]
60	29	19,704	-58.2		07	3.1
50	29	20,858	-55.7		08	5.6
40	29	22,287	-53.4		09	6.3
30	28	24,153	-50.8		08	7.7
25	28	25,347	-48.5		08	8.9
20	28	26,824	-45.7		09	9.6
15	26	28,745	-43.0		09	11.2
10	20	31,512	-37.5		09	13.3
7	12	33,999	-32.8			

OAKLAND, CA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	6	12.8	10.6	25	1.5
1000	30	117	12.0	10.1	25	1.9
950	30	547	14.0	4.4	25	2.8
900	30	1,009	18.9	.2	29	2.8
850	30	1,499	18.4	-3.8	28	1.8
800	30	2,016	15.7	-5.9	25	1.5
750	30	2,559	12.0	-8.6	26	1.5
700	30	3,132	8.0	-10.9	26	1.0
650	30	3,739	3.9	-13.7	25	1.3
600	30	4,384	-.6	-15.4	23	1.5
550	30	5,073	-5.4	-19.2	24	1.8
500	30	5,814	-10.6	-22.9	26	2.7
450	30	6,616	-16.2	-26.9	27	2.8
400	30	7,491	-22.6	-34.7	27	3.5
350	30	8,460	-30.2	-40.2	26	3.7
300	30	9,534	-39.2	-47.5	25	3.5
250	29	10,751	-49.0		25	5.9
200	29	12,186	-57.8		25	8.3
175	29	13,023	-60.2		26	7.6
150	29	13,981	-61.9		24	8.3
125	29	15,107	-62.9		24	8.8
100	29	16,483	-62.8		23	5.6
80	29	17,857	-62.8		19	2.5
70	29	18,683	-61.8		13	2.2
60	29	19,642	-59.7		11	3.5
50	29	20,789	-57.3		09	4.8
40	29	22,207	-55.3		09	6.2
30	29	24,057	-52.2		09	7.5
25	29	25,241	-50.5		09	8.5
20	29	26,707	-47.5		09	9.5
15	27	28,631	-43.8		09	11.0
10	27	31,388	-37.9		09	13.9
7	18	33,847	-33.6		09	14.4

OMAHA, NE
967 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	403	18.2	13.7	01	.2
1000						
950	30	551	19.4	12.8	1[illegible]	.8
900	30	1,017	19.2	9.6	25	2.3
850	30	1,507	17.2	5.8	27	3.9
800	30	2,023	14.5	2.9	29	4.4
750	30	2,565	11.3	-.9	30	5.4
700	30	3,138	7.7	-3.8	30	7.3
650	30	3,745	3.8	-8.1	29	9.2
600	30	4,390	-.3	-14.[illegible]	30	10.1
550	30	5,081	-4.9	-19.3	30	11.3
500	30	5,824	-9.9	-24.3	30	12.3
450	30	6,629	-14.8	-29.2	30	13.6
400	30	7,510	-21.1	-34.6	30	14.3
350	30	8,484	-28.3	-41.7	30	14.6
300	30	9,568	-36.8	-49.0	30	15.6
250	30	10,805	-46.4		29	16.6
200	30	12,251	-57.4		28	19.2
175	30	13,086	-61.4		28	17.9
150	30	14,036	-63.5		29	16.5
125	30	15,156	-62.9		29	12.0
100	30	16,533	-62.7		30	7.5
80	29	17,910	-61.7		32	3.2
70	29	18,740	-60.1		01	2.8
60	29	19,707	-58.2		04	4.0
50	29	20,861	-55.7		07	4.[illegible]
40	29	22,289	-53.7		08	5.8
30	29	24,152	-50.6		09	7.5
25	27	25,346	-48.8		09	7.5
20	26	26,825	-45.8		09	8.6
15	24	28,751	-43.1		09	10.7
10	19	31,507	-38.3		09	12.5
7						

+ PAGO PAGO, AMERICAN SAMOA
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	[illegible]	22.7	11	6.2
1000	30	[illegible]	26.[illegible]	[illegible]	11	7.0
950	30	544	22.2	19.[illegible]	11	[illegible]
900	30	[illegible]	18.5	16.[illegible]	[illegible]	7.4
850	30	[illegible]	16.[illegible]	[illegible]	[illegible]	[illegible]
800	30	[illegible]	16.2	.9	09	3.6
750	30	2,58[illegible]	14.4	-4.1	08	[illegible]
700	30	[illegible]	11.2	-6.[illegible]	09	2.1
650	30	[illegible]	7.6	[illegible]	08	1.8
600	30	4,434	3.5	-13.9	08	[illegible]
550	30	[illegible]	-.8	[illegible]	08	1.8
500	30	[illegible]	-5.4	-22.7	10	1.5
450	30	[illegible]	-10.2	-26.7	08	[illegible]
400	30	7,60[illegible]	-15.9	-32.[illegible]	19	1.5
350	30	8,60[illegible]	-22.9	-38.9	21	2.6
300	30	9,70[illegible]	-31.2	-45.[illegible]	23	4.1
250	30	10,[illegible]	-41.7		23	6.8
200	30	12,44[illegible]	-53.7		25	6.0
175	30	13,29[illegible]	-60.4		24	6.7
150	30	14,235	-68.1		24	7.5
125	30	[illegible]	-75.5		25	7.6
100	30	16,582	-79.4		25	3.7
80	30	[illegible]	-75.[illegible]		27	1.3
70	30	18,642	-71.3		[illegible]	.5
60	28	19,566	-65.6		10	2.4
50	28	20,692	-60.5		08	4.5
40	28	22,088	-58.8		08	8.8
30	28	23,917	-53.2		09	12.0
25	28	25,099	-50.5		[illegible]	11.8
20	27	26,563	-47.8		09	8.5
15	25	28,473	-44.7		31	3.3
10	23	31,216	-39.4		28	16.9
7	14	33,692	-35.1			

* PEORIA, IL
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	200	16.0	12.2	14	.6
1000						
950	30	563	18.6	10.2	25	1.6
900	30	1,026	16.4	8.8	29	3.8
850	30	1,511	14.1	4.3	29	[illegible].5
800	30	2,021	11.6	1.3	29	6.7
750	30	2,558	8.7	-1.9	29	8.1
700	30	3,126	5.5	-6.0	29	[illegible].7
650	30	3,729	2.1	-9.3	30	11.1
600	30	4,371	-1.7	-14.5	30	11.7
550	30	5,058	-5.8	-18.2	30	12.7
500	30	5,798	-10.6	-23.3	30	14.0
450	30	6,601	-15.[illegible]	-30.[illegible]	30	15.5
400	30	7,479	-21.7	-36.7	30	17.4
350	29	8,451	-28.9	-43.0	30	20.[illegible]
300	29	9,532	-37.2	-47.9	30	22.0
250	29	10,767	-46.7		30	24.1
200	29	12,212	-57.0		29	25.6
175	29	13,050	-60.7		29	26.0
150	29	14,005	-61.[illegible]		30	20.4
125	29	15,134	-61.7		30	13.4
100	29	16,512	-62.2		31	8.1
80	29	17,892	-61.2		33	3.9
70	28	18,725	-59.4		36	3.0
60	28	19,694	-57.6		04	3.3
50	28	20,852	-55.1		07	4.7
40	27	22,285	-53.2		08	5.7
30	26	24,155	-50.4		09	7.4
25	25	25,350	-48.3		08	7.[illegible]
20	24	26,828	-46.2		09	9.4
15	24	28,756	-42.2		08	11.0
10	16	31,532	-36.6		09	11.8

* PITTSBURGH, PA
972 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	359	13.9	10.8	25	1.5
1000						
950	30	554	15.5	11.4	27	3.0
900	30	1,012	13.6	8.6	28	[illegible]
850	30	1,492	10.8	5.1	28	6.6
800	30	1,996	8.2	.0	28	8.[illegible]
750	30	2,527	5.6	-4.1	28	9.9
700	30	3,089	3.2	-9.3	29	11.2
650	30	3,687	.2	-13.4	29	12.3
600	30	4,324	-3.5	-16.5	29	13.3
550	30	5,007	-7.5	-21.7	29	13.8
500	30	5,743	-12.3	-26.3	29	15.2
450	30	6,540	-17.5	-32.1	29	16.5
400	30	7,411	-23.6	-37.6	30	18.7
350	29	8,368	-30.8	-44.8	30	20.5
300	29	9,442	-38.5	-49.3	30	23.1
250	29	10,673	-46.7		29	26.4
200	29	12,123	-55.5		30	30.5
175	29	12,968	-58.6		30	28.2
150	29	13,935	-59.4		30	22.[illegible]
125	29	15,076	-59.7		30	14.2
100	28	16,467	-60.0		30	8.[illegible]
80	28	17,862	-59.4		33	3.8
70	27	18,701	-58.0		01	3.1
60	27	19,676	-56.3		06	4.1
50	27	20,839	-54.6		08	5.8
40	27	22,274	-52.7		08	7.2
30	26	24,146	-50.1		09	9.2
25	25	25,343	-48.2		09	9.6
20	25	26,821	-45.7		09	10.7
15	24	28,758	-42.2		09	11.5
10	17	31,514	-36.7		09	13.5

+ PONAPE, CAROLINE IS.
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	39	26.2	22.7	08	2.8
1000	30	82	26.7	23.1	08	3.1
950	30	534	23.3	20.7	08	5.9
900	30	1,006	20.3	17.3	09	7.5
850	30	1,498	18.0	12.4	09	7.5
800	30	2,017	15.9	8.8	09	6.6
750	30	2,563	13.1	5.0	09	6.3
700	30	3,141	9.7	2.5	10	6.2
650	30	3,753	6.3	-.6	10	6.6
600	30	4,406	2.7	-5.6	10	6.7
550	30	5,106	-1.1	-9.0	10	5.7
500	29	5,862	-4.9	-14.[illegible]	10	5.3
450	29	6,683	-9.7	-21.4	10	5.6
400	29	7,583	-15.2	-27.0	10	5.2
350	29	8,582	-21.9	-32.4	10	4.4
300	29	9,695	-30.3	-42.3	10	3.4
250	29	10,965	-40.4	-50.5	13	2.8
200	29	12,445	-53.1		15	3.0
175	29	13,292	-60.1		16	2.1
150	29	14,236	-68.2		17	1.4
125	29	15,310	-75.4		31	.2
100	29	16,588	-78.5		09	1.8
80	29	17,873	-74.2		09	5.5
70	29	18,658	-71.0		09	7.5
60	29	19,580	-66.7		09	12.0
50	29	20,695	-62.1		09	20.8
40	28	22,085	-58.6		09	27.8
30	27	23,917	-52.7		09	31.5
25	23	25,104	-49.1		09	30.9
20	23	26,584	-44.9		09	19.6
15	23	28,521	-41.9		10	9.3
10	15	31,316	-38.0		09	9.6

PORTLAND, ME
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	20	13.3	11.5	29	1.0
1000	27	101	14.3	11.0	29	1.3
950	30	525	13.8	8.5	29	2.[illegible]
900	30	980	11.6	6.3	29	3.1
850	30	1,456	8.7	3.7	29	3.3
800	30	1,955	5.7	1.5	29	4.2
750	30	2,481	2.9	-3.0	28	5.4
700	30	3,037	.2	-8.0	28	5.[illegible]
650	30	3,628	-2.7	-11.8	28	6.6
600	30	4,259	-6.3	-17.8	28	7.2
550	30	4,935	-10.1	-23.2	28	7.[illegible]
500	30	5,662	-15.1	-27.4	28	9.2
450	30	6,450	-20.7	-32.7	28	10.2
400	30	7,310	-27.2	-38.6	28	11.2
350	30	8,261	-34.6	-44.2	28	12.3
300	30	9,317	-42.2	-48.5	28	14.9
250	30	10,534	-48.5		27	17.1
200	30	11,987	-52.6		28	17.2
175	30	12,848	-53.7		28	14.1
150	30	13,837	-54.2		28	12.[illegible]
125	30	15,005	-55.0		28	9.3
100	30	16,429	-55.7		29	4.9
80	30	17,850	-55.4		30	1.7
70	30	18,704	-54.6		34	.5
60	30	19,693	-53.7		09	2.1
50	29	20,867	-52.6		09	4.1
40	28	22,310	-51.2		09	5.7
30	28	24,192	-48.7		09	8.3
25	26	25,396	-46.5		09	8.[illegible]
20	26	26,887	-43.8		09	9.5
15	24	28,830	-40.1		09	9.8
10	16	31,611	-35.6			

* QUILLAYUTE, WA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	29	58	9.6	8.5	08	.1
1000	29	161	9.7	8.3	29	.2
950	29	586	8.4	5.2	25	1.4
900	29	1,034	8.4	-1.0	25	2.2
850	29	1,505	6.8	-5.5	24	3.3
800	29	2,001	4.9	-8.6	24	4.0
750	29	2,525	2.6	-14.3	25	5.5
700	29	3,080	-.1	-16.6	26	7.1
650	29	3,670	-3.2	-19.[illegible]	26	8.7
600	29	4,299	-6.7	-21.9	26	10.4
550	29	4,974	-10.7	-25.2	26	12.4
500	29	5,700	-15.7	-30.3	25	14.1
450	29	6,486	-20.8	-32.9	25	16.8
400	29	7,347	-26.6	-37.7	25	19.3
350	29	[illegible],301	-33.6	-44.1	25	21.8
300	29	9,361	-41.9	-48.3	25	23.9
250	29	10,573	-50.6		25	23.1
200	29	12,006	-56.3		25	23.1
175	29	12,854	-56.8		25	21.6
150	29	13,831	-56.6		25	16.7
125	29	14,989	-55.9		24	13.6
100	28	16,412	-56.3		24	7.7
80	28	17,830	-56.1		22	3.7
70	28	18,681	-55.5		20	1.8
60	28	19,665	-54.8		14	2.0
50	28	20,835	-53.4		10	3.3
40	28	22,275	-52.2		09	4.8
30	28	24,146	-49.9		09	7.2
25	28	25,343	-48.3		09	8.2
20	26	26,821	-45.2		09	8.8
15	26	28,755	-42.1		09	9.7
10	17	31,533	-36.8		09	11.0

RAPID CITY, SD
905 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	966	14.4	10.4	34	2.2
1000						
950						
900	26	1,022	15.7	9.7	34	2.2
850	30	1,500	16.9	6.8	30	2.4
800	30	2,016	14.[illegible]	3.5	27	3.[illegible]
750	30	2,559	11.7	.1	27	4.[illegible]
700	30	3,132	7.8	-3.6	28	6.1
650	30	3,740	3.7	-6.7	28	8.2
600	30	4,384	-1.[illegible]	-10.[illegible]	28	10.9
550	30	5,072	-6.[illegible]	-15.3	28	12.7
500	30	5,811	-11.2	-22.6	27	13.4
450	30	6,611	-16.8	-29.3	27	13.7
400	30	7,485	-23.1	-35.5	28	14.9
350	30	8,452	-30.[illegible]	-41.7	27	15.4
300	30	9,527	-38.8	-49.9	27	15.5
250	30	10,752	-48.7		27	16.8
200	30	12,186	-58.4		27	18.1
175	30	13,022	-60.6		27	17.9
150	30	13,981	-61.0		27	15.3
125	29	15,113	-60.9		28	10.6
100	29	16,500	-61.1		27	6.8
80	29	17,886	-60.4		29	2.7
70	29	18,720	-59.4		35	1.3
60	29	19,690	-57.5		06	2.7
50	29	20,847	-55.8		07	4.0
40	29	22,275	-53.7		08	5.6
30	29	24,137	-50.6		08	7.4
25	28	25,330	-49.1		09	8.9
20	27	26,801	-46.0		09	9.5
15	27	28,728	-43.[illegible]		09	11.3
10	19	31,473	-37.9		09	12.2
7	6	33,930	-33.0			

ST CLOUD, MN
977 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	316	13.5	11.6	35	.4
1000						
950	30	556	16.0	11.1	23	1.3
900	30	1,015	15.0	7.3	27	2.7
850	30	1,498	12.4	4.9	29	4.5
800	30	2,004	9.5	1.0	30	6.6
750	30	2,538	6.7	-3.4	30	8.3
700	30	3,101	3.4	-7.3	30	9.9
650	30	3,698	.1	-11.3	30	11.0
600	30	4,336	-3.7	-14.6	30	12.3
550	30	5,018	-7.7	-21.0	30	14.2
500	30	5,753	-12.6	-25.4	29	15.5
450	30	6,549	-17.8	-30.1	29	16.7
400	30	7,420	-23.9	-35.6	30	18.7
350	30	8,384	-30.9	-41.9	29	21.0
300	30	9,456	-39.2	-48.3	29	24.7
250	30	10,681	-48.4		29	27.1
200	30	12,121	-57.0		29	27.7
175	30	12,960	-59.3		29	25.8
150	30	13,928	-57.9		30	18.7
125	29	15,082	-58.5		29	12.9
100	29	16,486	-58.7		29	8.0
80	29	17,886	-58.7		32	4.[illegible]
70	29	18,728	-57.5		34	3.1
60	29	19,705	-56.0		04	[illegible].4
50	29	20,871	-54.2		07	3.7
40	29	22,307	-52.6		07	5.8
30	29	24,177	-49.8		08	[illegible].0
25	29	25,375	-47.9		09	8.5
20	28	26,854	-45.4		08	9.4
15	26	28,788	-42.2		09	10.4
10	19	31,569	-36.4		08	12.3

* ST PAUL ISLAND, AK
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	10	5.2	3.8	05	1.7
1000	30	118	5.3	4.2	06	1.3
950	30	537	4.1	2.1	11	1.8
900	30	976	2.5	-1.2	11	1.5
850	30	1,437	.6	-3.5	13	1.7
800	30	1,922	-1.7	-6.[illegible]	14	1.8
750	30	2,434	-4.3	-10.0	15	1.9
700	30	2,975	-7.3	-15.5	16	1.5
650	30	3,549	-10.1	-20.3	17	1.1
600	30	4,162	-13.6	-23.7	16	1.0
550	30	4,819	-17.6	-27.1	20	.9
500	30	5,526	-22.0	-32.3	23	1.4
450	30	6,293	-27.3	-36.5	24	1.6
400	30	7,131	-33.7	-41.9	23	.5
350	30	8,057	-40.6	-46.0	16	.7
300	30	9,086	-48.3		22	1.2
250	30	10,273	-52.1		21	1.3
200	29	11,720	-48.6		25	.5
175	29	12,602	-47.4		23	.4
150	29	13,621	-47.8		11	.5
125	28	14,823	-48.6		09	1.5
100	28	16,292	-48.3		09	2.3
80	28	17,762	-48.2		10	3.5
70	28	18,642	-48.2		10	3.7
60	28	19,658	-48.1		09	4.2
50	28	20,860	-48.2		09	5.1
40	28	22,332	-48.0		09	6.0
30	28	24,233	-47.1		09	7.3
25	28	25,443	-46.0		09	7.4
20	27	26,933	-44.2		09	8.9
15	25	28,876	-40.8		09	9.9
10	21	31,662	-35.1		08	10.5
7	13	34,162	-31.1		08	12.5

SALEM, IL
994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	174	17.8	15.6	22	.9
1000						
950	30	565	19.8	12.6	27	3.4
900	30	1,030	17.8	10.8	28	5.4
850	30	1,518	15.3	8.7	28	7.0
800	30	2,030	12.3	4.5	29	7.[illegible]
750	30	2,568	9.0	.3	29	[illegible].7
700	30	3,137	6.2	-3.8	29	9.7
650	30	3,741	2.9	-8.7	29	10.2
600	30	4,386	-.7	-13.3	30	10.7
550	30	5,075	-4.9	-18.0	30	11.6
500	30	5,818	-9.4	-24.0	30	12.5
450	30	6,625	-14.7	-29.6	30	12.7
400	30	7,506	-20.8	-34.7	30	14.0
350	30	8,482	-28.0	-40.4	30	15.5
300	30	9,568	-36.4	-47.4	30	17.4
250	30	10,806	-46.1		30	19.7
200	30	12,255	-56.2		30	20.6
175	30	13,096	-60.3		30	20.5
150	30	14,050	-63.4		29	17.9
125	30	15,166	-64.5		29	13.8
100	30	16,533	-63.7		31	7.0
80	30	17,908	-61.9		33	3.5
70	30	18,738	-60.0		02	2.5
60	30	19,706	-57.8		05	3.6
50	30	20,862	-55.7		07	5.0
40	29	22,293	-53.0		08	6.5
30	28	24,157	-50.8		09	7.4
25	28	25,349	-49.0		08	8.4
20	26	26,824	-45.6		09	9.7
15	24	28,754	-41.8		09	11.5
10	20	31,531	-36.4		09	13.1
7	8	34,023	-33.3			

SALEM, OR
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	61	10.9	7.6	27	.4
1000	30	154	12.1	9.0	36	[illegible]
950	30	584	11.3	7.4	02	[illegible]
900	30	1,036	10.8	3.8	35	[illegible]
850	30	1,512	9.8	-2.7	31	2.2
800	30	2,015	8.5	-6.6	28	3.5
750	30	2,546	6.2	-9.5	27	4.5
700	30	3,108	3.2	-11.5	26	5.7
650	30	3,706	.1	-14.7	26	7.1
600	30	4,343	-3.8	-19.2	25	8.6
550	30	5,024	-8.0	-22.8	26	10.1
500	29	5,762	-12.7	-27.1	25	11.7
450	29	6,558	-17.9	-31.6	25	13.7
400	29	7,428	-24.2	-35.8	25	15.2
350	29	8,390	-31.6	-42.7	25	16.4
300	29	9,458	-40.5	-47.9	25	17.3
250	29	10,575	-50.1		25	19.9
200	29	12,104	-58.0		25	17.9
175	28	12,943	-59.0		25	16.1
150	28	13,907	-59.8		25	[illegible]
125	28	15,048	-58.9		25	11.2
100	28	16,450	-58.6		24	6.9
80	28	17,653	-58.3		22	[illegible]
70	28	18,695	-57.2		[illegible]	2.0
60	28	19,673	-56.2		11	2.3
50	27	[illegible]	-54.8		11	3.5
40	27	22,269	-53.2		09	[illegible]
30	27	24,134	-50.6		09	7.5
25	27	25,328	-48.6		09	8.6
20	27	26,805	-45.9		09	[illegible]
15	27	28,734	-42.6		09	10.8
10	[illegible]	[illegible]	-37.7		09	12.2
7	7	33,951	-32.4			

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UT
870 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,288	16.3	6.9	16	3.1
1000						
950						
900						
850	30	1,489	20.4	3.3	16	3.2
800	30	2,010	18.0	-.6	18	2.3
750	30	2,559	14.3	-3.4	22	2.2
700	30	3,136	9.7	-6.0	25	3.4
650	30	3,747	4.9	-8.1	25	5.3
600	30	4,393	-.3	-12.0	24	6.3
550	30	5,082	-5.9	-16.0	23	7.1
500	30	5,821	-11.1	-23.6	23	7.3
450	30	6,622	-16.3	-29.8	24	8.3
400	30	7,498	-22.8	-35.7	23	9.0
350	30	8,465	-30.3	-42.5	24	10.0
300	30	9,539	-39.3	-49.9	24	10.3
250	30	10,762	-49.1		24	10.4
200	30	12,195	-58.3		25	11.8
175	30	13,029	-60.5		25	11.6
150	30	13,988	-61.3		25	11.2
125	30	15,118	-61.8		25	8.9
100	30	16,495	-63.5		24	5.0
80	30	17,867	-62.4		19	1.3
70	30	18,696	-60.5		12	1.1
60	30	19,661	-58.6		09	3.3
50	30	20,813	-56.4		08	4.5
40	30	22,238	-53.9		08	6.4
30	29	24,095	-51.4		08	7.4
25	29	25,285	-49.5		08	8.7
20	29	26,755	-47.0		09	10.3
15	29	28,677	-43.0		09	11.1
10	26	31,451	-37.7		09	13.4
7	10	33,937	-33.0			

SAN DIEGO, CA
999 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	124	15.9	13.7	28	.6
1000	9	127	15.5	13.1		
950	30	546	14.9	8.4	36	.1
900	30	1,008	18.9	1.8	31	1.6
850	30	1,499	19.6	-3.8	30	3.5
800	30	2,018	17.2	-5.7	28	3.2
750	30	2,565	13.6	-8.1	25	2.8
700	30	3,141	9.7	-10.8	23	2.6
650	30	3,751	5.4	-12.9	21	3.1
600	30	4,399	.6	-16.4	20	3.7
550	30	5,092	-3.9	-19.7	21	5.1
500	30	5,837	-9.1	-24.0	22	5.4
450	30	6,643	-14.9	-30.2	23	5.3
400	30	7,523	-21.7	-36.1	24	6.7
350	30	8,494	-29.3	-42.6	24	7.5
300	30	9,574	-37.6	-50.4	25	9.7
250	27	10,807	-47.1		26	12.0
200	27	12,253	-56.3		26	14.6
175	27	13,094	-59.5		25	14.7
150	27	14,052	-62.4		25	14.8
125	27	15,171	-64.6		24	10.8
100	27	16,527	-66.9		22	3.8
80	27	17,878	-65.8		11	2.1
70	27	18,693	-64.1		10	3.9
60	27	19,643	-61.1		09	8.2
50	27	20,785	-57.8		09	6.6
40	26	22,202	-55.5		09	7.5
30	26	24,049	-52.3		09	9.5
25	25	25,236	-50.0		09	9.7
20	23	26,707	-47.2		09	10.7
15	22	28,628	-43.6		09	11.8
10	13	31,390	-38.4		08	15.2
7	7	33,867	-35.4			

SAN JUAN, P. R.
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	6	25.6	22.4	11	3.4
1000	30	156	23.9	20.7	11	5.4
950	30	604	20.8	18.1	11	8.5
900	30	1,071	17.9	14.5	12	9.2
850	30	1,559	15.6	9.1	12	9.0
800	30	2,072	13.4	2.7	11	8.5
750	30	2,613	11.1	-4.3	11	8.0
700	30	3,185	8.0	-8.9	12	7.1
650	30	3,793	4.6	-12.0	12	7.2
600	30	4,441	1.0	-17.9	12	6.7
550	30	5,135	-3.2	-20.8	12	6.2
500	30	5,882	-7.6	-25.7	11	4.8
450	30	6,695	-12.4	-29.8	11	4.5
400	30	7,584	-18.4	-34.2	09	2.3
350	30	8,570	-25.5	-39.8	36	.9
300	30	9,666	-34.1	-46.7	29	3.3
250	30	10,915	-44.4		30	4.5
200	29	12,372	-56.0		31	8.2
175	29	13,210	-61.9		32	9.1
150	29	14,149	-67.9		32	8.4
125	29	15,234	-71.8		32	5.0
100	29	16,545	-72.9		02	1.0
80	29	17,858	-71.2		09	6.1
70	29	18,655	-67.2		10	9.9
60	28	19,593	-64.0		10	13.1
50	28	20,720	-60.4		10	16.7
40	27	22,121	-57.4		11	19.3
30	25	23,957	-53.0		11	22.1
25	24	25,139	-50.3		11	22.7
20	24	26,606	-47.3		11	21.9
15	23	28,526	-44.2		10	20.8
10	16	31,258	-40.3		10	23.0
7	8	33,708	-35.4			

* SAULT STE MARIE, MI
987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	221	9.2	7.2	36	.7
1000						
950	30	540	12.2	6.3	27	1.5
900	30	993	10.8	5.0	29	3.0
850	30	1,468	8.1	1.9	30	4.7
800	30	1,966	5.5	-2.1	30	5.3
750	30	2,492	3.2	-5.5	30	5.6
700	30	3,049	.3	-9.6	30	6.4
650	30	3,640	-2.7	-13.8	30	7.4
600	30	4,272	-5.9	-17.8	30	8.3
550	30	4,948	-10.0	-20.6	30	10.0
500	30	5,676	-15.0	-25.3	30	10.9
450	30	6,466	-20.2	-31.4	30	12.2
400	30	7,327	-26.8	-37.5	30	14.3
350	30	8,279	-34.1	-42.9	30	15.7
300	30	9,339	-41.4	-47.9	30	18.8
250	30	10,558	-48.0		30	22.6
200	30	12,011	-53.4		30	24.1
175	30	12,868	-54.2		30	21.5
150	30	13,856	-54.6		30	16.3
125	30	15,023	-54.7		30	11.8
100	30	16,447	-55.7		31	7.4
80	30	17,868	-55.9		32	4.8
70	30	18,719	-54.9		35	2.8
60	30	19,707	-53.9		04	2.4
50	30	20,883	-52.2		06	3.2
40	30	22,331	-50.9		08	5.3
30	29	24,213	-48.8		08	7.2
25	29	25,416	-47.1		08	8.3
20	28	26,900	-44.8		09	9.1
15	26	28,836	-41.2		09	9.8
10	24	31,618	-36.0		09	11.7
7	6	34,130	-30.8			

SPOKANE, WA
931 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	720	12.4	5.8	19	1.8
1000						
950						
900	30	1,009	15.6	2.7	24	2.4
850	30	1,493	13.7	-1.0	24	3.0
800	30	2,001	10.1	-2.9	25	4.3
750	30	2,533	6.0	-4.8	25	5.5
700	30	3,094	2.4	-8.0	25	6.7
650	30	3,690	-.8	-12.3	25	8.8
600	30	4,325	-4.6	-16.1	25	9.6
550	30	5,005	-8.6	-20.2	25	11.3
500	30	5,738	-13.3	-24.1	26	13.0
450	30	6,533	-18.3	-28.7	26	15.4
400	30	7,401	-24.7	-33.9	25	17.4
350	30	8,362	-31.8	-41.0	25	19.4
300	30	9,429	-40.4	-45.8	25	20.8
250	30	10,646	-50.1		25	21.9
200	30	12,079	-57.0		25	22.2
175	30	12,923	-57.5		25	20.9
150	30	13,898	-57.0		25	16.7
125	30	15,052	-56.9		25	11.7
100	28	16,470	-56.6		24	6.9
80	28	17,884	-56.4		22	3.8
70	28	18,733	-55.7		20	1.8
60	28	19,717	-54.8		11	1.0
50	27	20,888	-53.4		09	3.4
40	25	22,325	-51.7		09	6.0
30	25	24,202	-49.2		08	7.2
25	25	25,402	-47.8		09	8.7
20	25	26,884	-45.1		09	9.4
15	24	28,815	-42.0		08	9.6
10	20	31,599	-35.9		09	12.0
7	6	34,113	-30.3			

TAMPA BAY, FL
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	13	22.7	21.8	13	.5
1000	30	149	25.2	21.9	28	.1
950	30	599	23.1	17.4	28	1.4
900	30	1,070	20.5	13.2	25	1.6
850	30	1,562	17.6	9.2	24	1.4
800	30	2,078	14.4	5.9	23	.8
750	30	2,621	10.9	1.9	20	.7
700	30	3,193	7.3	-2.5	20	.3
650	29	3,800	3.9	-7.3	27	.3
600	29	4,447	.4	-12.3	29	1.1
550	29	5,140	-3.3	-17.7	30	2.0
500	29	5,887	-7.8	-22.4	29	2.5
450	29	6,699	-13.0	-26.7	29	3.4
400	29	7,586	-19.1	-32.6	29	3.5
350	29	8,569	-26.1	-38.4	28	3.6
300	29	9,663	-34.5	-46.8	27	4.6
250	29	10,912	-44.2		27	5.7
200	29	12,371	-55.6		27	9.3
175	29	13,211	-61.5		28	9.9
150	29	14,153	-66.9		28	8.5
125	29	15,243	-70.7		31	5.5
100	29	16,560	-71.3		34	2.9
80	29	17,891	-67.6		05	4.1
70	29	18,700	-64.7		08	5.0
60	29	19,649	-61.3		08	8.6
50	29	20,790	-58.1		09	11.8
40	29	22,208	-54.4		09	12.2
30	28	24,066	-51.6		09	12.0
25	28	25,254	-49.7		09	12.7
20	27	26,722	-46.9		09	13.4
15	27	28,640	-44.0		08	13.8
10	23	31,400	-39.6		09	16.4
7	15	33,837	-35.1		09	17.1
5						

TOPEKA, KS
982 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	268	19.6	17.6	14	1.7
1000						
950	30	559	21.7	15.5	24	1.8
900	30	1,028	20.4	12.1	25	3.7
850	30	1,520	18.1	8.1	25	3.9
800	30	2,037	15.2	4.7	27	4.2
750	30	2,581	11.8	1.0	29	4.9
700	29	3,155	8.2	-2.4	29	5.8
650	29	3,763	4.4	-7.2	29	6.3
600	26	4,409	.1	-13.2	29	7.2
550	26	5,100	-4.3	-17.5	29	8.1
500	26	5,844	-9.3	-22.8	30	8.6
450	26	6,651	-14.7	-27.6	30	9.3
400	26	7,533	-21.0	-33.9	30	9.6
350	26	8,508	-28.0	-39.1	30	10.4
300	26	9,593	-36.4	-47.5	29	10.7
250	26	10,832	-46.2		28	11.8
200	26	12,280	-56.9		28	14.1
175	26	13,117	-61.1		28	15.8
150	25	14,065	-63.8		28	13.1
125	25	15,179	-65.0		29	11.3
100	25	16,542	-64.6		30	6.1
80	25	17,908	-63.1		36	2.4
70	25	18,734	-61.6		04	1.9
60	25	19,694	-59.3		06	3.9
50	25	20,845	-56.4		08	5.4
40	24	22,267	-53.9		08	8.5
30	22	24,126	-51.6		09	7.9
25	22	25,316	-49.2		09	8.6
20	20	26,781	-46.3		09	9.0
15	16	28,694	-42.8		08	9.2
10	10	31,423	-39.1			
7						
5						

TRUK, CAROLINE IS. +
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	2	28.7	24.8	06	3.4
1000	30	94	27.7	23.7	07	4.1
950	30	548	24.0	21.1	09	5.6
900	30	1,021	21.2	17.2	09	6.9
850	30	1,515	18.3	13.8	09	6.6
800	30	2,034	15.8	10.4	09	6.5
750	30	2,581	13.4	6.8	10	6.9
700	30	3,159	10.2	3.4	09	6.8
650	30	3,773	6.9	-1.1	09	6.6
600	30	4,427	3.2	-4.8	09	7.4
550	30	5,128	-.6	-7.8	09	6.8
500	30	5,885	-4.8	-13.3	09	6.4
450	30	6,707	-9.4	-19.2	09	6.2
400	30	7,609	-14.9	-25.4	10	5.7
350	30	8,609	-21.6	-33.4	10	4.2
300	30	9,723	-30.0	-42.8	11	3.9
250	30	10,995	-40.3	-52.1	13	2.9
200	30	12,476	-53.0		16	2.6
175	30	13,323	-59.9		15	2.1
150	30	14,268	-67.8		15	.2
125	30	15,345	-75.2		13	1.1
100	30	16,623	-77.6		08	2.1
80	30	17,913	-73.8		09	6.3
70	30	18,699	-71.2		09	8.7
60	29	19,618	-66.9		09	14.3
50	29	20,733	-62.1		09	21.1
40	29	22,127	-57.7		09	28.0
30	29	23,965	-52.7		09	33.4
25	29	25,153	-48.7		09	31.2
20	27	26,640	-44.0		09	21.7
15	27	28,583	-41.1		10	9.2
10	21	31,370	-37.3		10	9.1
7						
5						

* TUCSON, AZ
923 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	789	22.4	3.1	14	8.0
1000						
950						
900	30	1,007	25.8	4.4	16	2.0
850	30	1,506	23.1	1.8	23	.5
800	30	2,031	19.6	-.6	23	1.0
750	30	2,582	15.4	-3.2	21	2.9
700	30	3,162	11.1	-6.1	21	4.0
650	30	3,775	6.4	-8.9	21	4.6
600	30	4,425	1.1	-12.3	21	5.4
550	30	5,118	-4.5	-15.9	22	5.5
500	30	5,861	-9.8	-21.8	22	6.0
450	30	6,666	-15.1	-27.9	23	5.9
400	30	7,546	-21.2	-34.9	24	5.9
350	30	8,521	-28.6	-42.3	23	7.3
300	30	9,603	-37.1	-50.0	24	8.6
250	30	10,839	-46.4		24	11.2
200	30	12,291	-55.1		25	16.3
175	30	13,136	-59.0		25	16.4
150	30	14,095	-62.7		25	14.4
125	30	15,209	-66.5		25	10.7
100	30	16,550	-68.5		24	3.9
80	30	17,890	-67.0		10	1.8
70	30	18,701	-64.6		09	4.8
60	30	19,652	-60.7		09	6.0
50	30	20,797	-57.4		09	7.3
40	29	22,215	-54.9		09	8.2
30	29	24,067	-51.9		09	9.6
25	28	25,257	-50.1		09	10.1
20	28	26,724	-47.3		09	10.4
15	26	28,639	-44.4		09	11.2
10	24	31,395	-38.0		09	15.3
7	6	33,838	-35.8			
5						

* VANDENBERG AFB, CA
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	100	11.0	9.6	32	1.0
1000	26	125	10.9	9.7	34	1.4
950	30	551	14.5	4.9	35	3.6
900	30	1,012	19.1	-.2	02	3.2
850	30	1,503	18.2	-3.4	36	1.9
800	30	2,020	15.7	-6.8	32	1.8
750	30	2,563	12.3	-8.8	30	1.4
700	30	3,137	8.5	-11.0	27	1.3
650	30	3,745	4.4	-13.0	26	1.9
600	30	4,391	.0	-17.4	26	2.6
550	30	5,082	-4.7	-22.3	25	3.4
500	30	5,824	-10.1	-25.4	25	4.1
450	30	6,628	-15.6	-30.3	25	4.7
400	30	7,506	-22.2	-36.3	24	5.3
350	30	8,475	-30.0	-41.8	24	5.0
300	30	9,550	-38.7	-50.5	24	4.7
250	30	10,778	-48.0		25	7.4
200	30	12,217	-57.2		25	10.6
175	29	13,057	-60.2		25	11.4
150	29	14,015	-61.8		24	10.3
125	29	15,138	-63.6		24	9.0
100	29	16,503	-64.8		23	5.0
80	28	17,864	-64.5		16	1.9
70	28	18,683	-63.1		11	2.5
60	28	19,636	-60.9		10	3.9
50	27	20,779	-58.0		09	4.8
40	27	22,195	-55.3		09	6.3
30	27	24,041	-53.1		09	7.7
25	27	25,221	-51.3		09	8.2
20	26	26,680	-48.3		09	9.8
15	24	28,591	-44.6		09	10.1
10	21	31,330	-39.8		09	13.4
7	15	33,780	-35.1		09	14.2
5	8	36,125	-29.6			

VICTORIA, TX
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	33	23.4	22.3	15	1.1
1000	30	120	24.6	23.7	17	2.8
950	30	570	22.6	19.9	18	7.5
900	30	1,041	20.6	14.0	18	7.9
850	30	1,534	18.3	7.9	18	7.2
800	30	2,051	15.5	4.5	17	6.1
750	30	2,596	12.4	-.3	17	5.4
700	30	3,171	8.8	-5.3	17	3.7
650	30	3,780	5.2	-8.8	16	3.5
600	30	4,430	1.4	-14.2	17	3.2
550	30	5,124	-3.2	-16.8	17	3.3
500	30	5,872	-8.1	-21.1	17	2.5
450	30	6,683	-13.0	-26.2	20	1.7
400	30	7,571	-19.0	-33.0	22	1.9
350	30	8,554	-26.1	-38.6	25	2.2
300	30	9,648	-34.6	-46.8	26	2.5
250	30	10,897	-44.2		28	4.8
200	30	12,358	-54.5		30	5.9
175	30	13,204	-59.5		29	5.6
150	30	14,156	-64.9		29	5.8
125	29	15,251	-70.1		30	4.6
100	29	16,567	-72.3		34	2.9
80	29	17,889	-68.8		06	4.6
70	29	18,695	-65.7		08	6.8
60	29	19,639	-62.2		09	7.4
50	29	20,777	-58.8		09	8.8
40	29	22,189	-55.4		09	11.0
30	28	24,042	-52.0		09	12.4
25	27	25,229	-49.7		09	12.1
20	22	26,697	-47.5		09	12.4
15	20	28,611	-44.6		09	12.7
10	17	31,365	-40.3		09	16.7
7	9	33,819	-35.2			

* WAKE IS., PACIFIC AREA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	27.1	22.7	09	5.2
1000	30	135	26.0	22.2	09	6.2
950	30	586	22.3	20.0	10	7.4
900	30	1,055	19.1	15.7	10	7.3
850	30	1,546	16.3	10.8	10	6.9
800	30	2,060	13.7	7.9	10	6.4
750	30	2,603	11.6	-.4	10	6.0
700	30	3,178	9.2	-7.5	09	5.8
650	30	3,788	6.0	-11.1	09	5.4
600	30	4,439	2.5	-16.2	09	5.3
550	30	5,138	-1.4	-21.0	08	5.0
500	30	5,890	-6.3	-23.5	09	4.3
450	30	6,705	-11.7	-28.5	08	4.1
400	30	7,597	-17.8	-34.2	06	3.7
350	30	8,585	-25.0	-39.9	05	2.8
300	30	9,682	-33.9	-47.3	03	3.3
250	30	10,933	-43.9		01	2.4
200	30	12,394	-55.1		34	4.3
175	30	13,235	-61.1		32	5.2
150	30	14,178	-67.5		31	5.3
125	30	15,260	-73.3		36	3.8
100	29	16,556	-75.2		06	3.3
80	29	17,856	-72.5		07	6.4
70	28	18,647	-68.3		08	9.5
60	27	19,580	-65.0		09	12.7
50	27	20,702	-61.4		09	14.8
40	27	22,099	-57.7		09	17.6
30	27	23,932	-53.6		09	20.3
25	27	25,109	-51.7		09	21.8
20	27	26,568	-48.4		08	22.8
15	26	28,474	-45.3		09	22.6
10	26	31,210	-40.7		09	23.4
7	17	33,654	-36.9		09	24.8

* WALLOPS ISLAND, VA NASA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	4	19.1	16.7	27	.9
1000	30	116	20.0	14.8	29	1.8
950	30	558	18.8	10.1	30	4.0
900	30	1,021	15.9	7.6	29	4.6
850	30	1,504	12.8	4.8	29	6.0
800	30	2,011	9.6	1.3	28	7.7
750	30	2,544	6.6	-1.1	28	9.3
700	30	3,109	4.1	-6.6	29	10.4
650	30	3,708	1.1	-11.1	29	11.7
600	30	4,348	-2.3	-16.0	29	12.3
550	30	5,034	-6.3	-21.6	29	13.5
500	30	5,773	-11.1	-25.7	29	15.7
450	30	6,574	-16.1	-29.9	29	16.7
400	30	7,450	-22.0	-35.1	28	18.3
350	30	8,421	-28.8	-42.0	28	20.0
300	30	9,502	-37.2	-47.7	28	22.4
250	30	10,738	-46.1		29	25.1
200	30	12,191	-55.6		29	26.5
175	30	13,035	-59.4		29	24.9
150	30	13,994	-61.4		29	21.0
125	30	15,124	-61.3		29	16.0
100	30	16,508	-61.5		30	8.2
80	30	17,895	-60.4		32	3.3
70	30	18,731	-58.4		01	1.8
60	30	19,704	-56.8		06	3.2
50	30	20,866	-54.8		08	5.4
40	30	22,301	-52.6		09	6.6
30	30	24,172	-49.9		10	8.4
25	30	25,369	-47.9		09	8.7
20	30	26,851	-45.2		09	10.1
15	28	28,787	-41.9		09	11.8
10	19	31,564	-36.7		09	14.2
7	6	34,013	-33.2			

WASHINGTON DULLES INT. AP
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	85	16.1	13.4	27	1.2
1000	22	134	17.1	12.8	29	1.8
950	30	554	17.3	10.0	29	4.3
900	30	1,014	14.6	7.6	30	4.9
850	30	1,495	11.8	4.8	29	6.1
800	30	2,000	8.7	.7	29	7.5
750	30	2,531	6.1	-3.9	28	8.5
700	30	3,094	3.1	-7.6	28	10.0
650	30	3,692	.5	-13.2	29	10.4
600	30	4,331	-3.0	-17.2	28	11.4
550	30	5,015	-7.2	-21.7	29	12.8
500	30	5,751	-12.1	-26.2	29	13.3
450	30	6,549	-17.5	-30.3	28	14.9
400	30	7,420	-23.6	-36.6	28	16.3
350	30	8,386	-30.4	-42.7	29	18.4
300	30	9,461	-38.2	-48.8	29	21.1
250	30	10,693	-46.8		29	24.0
200	30	12,143	-55.8		30	24.8
175	30	12,988	-59.1		30	23.0
150	30	13,949	-60.5		30	19.1
125	30	15,083	-61.1		29	13.4
100	30	16,470	-61.2		30	8.7
80	30	17,857	-60.2		32	3.5
70	30	18,693	-58.8		36	2.3
60	30	19,666	-56.9		05	2.1
50	30	20,827	-54.9		08	4.0
40	28	22,262	-52.9		08	5.2
30	28	24,129	-50.2		09	7.1
25	28	25,324	-48.8		09	6.9
20	27	26,798	-46.2		08	9.1
15	26	28,726	-43.0		09	11.3
10	18	31,492	-38.6		09	12.5
7	7	33,986	-31.9			

WAYCROSS, GA
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	44	21.1	19.5	25	.9
1000	30	134	22.1	19.4	28	2.5
950	30	583	23.9	14.8	30	6.0
900	30	1,055	21.1	12.4	29	4.8
850	30	1,547	17.5	9.7	29	4.3
800	30	2,063	14.1	4.8	29	4.6
750	30	2,605	10.9	.7	28	5.7
700	30	3,177	7.6	-4.0	29	5.8
650	30	3,784	3.7	-6.9	29	5.9
600	30	4,429	-.3	-11.6	29	6.0
550	30	5,121	-4.1	-16.2	29	6.4
500	30	5,867	-8.4	-22.3	29	6.6
450	30	6,677	-13.2	-26.4	29	7.1
400	30	7,564	-19.2	-32.7	30	7.8
350	30	8,546	-26.3	-39.4	30	8.3
300	30	9,639	-34.8	-47.1	30	8.5
250	30	10,886	-44.6		29	9.0
200	30	12,344	-55.9		29	9.2
175	30	13,183	-61.1		29	10.3
150	30	14,129	-65.9		29	10.3
125	30	15,226	-69.0		30	9.0
100	30	16,557	-69.1		31	4.4
80	30	17,903	-65.2		05	2.5
70	30	18,722	-62.7		07	2.7
60	29	19,680	-59.7		07	5.8
50	29	20,828	-56.6		08	8.7
40	29	22,254	-53.5		09	9.6
30	28	24,121	-50.3		09	9.2
25	28	25,315	-48.6		09	9.9
20	28	26,791	-46.3		09	11.0
15	28	28,716	-42.9		08	11.8
10	20	31,472	-37.8		08	15.1
7	6	33,907	-34.5			

RAWINSONDE DATA

Average monthly values

JUNE 1977

WEST PALM BEACH, FL
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	7	23.7	21.8	23	1.0
1000	30	150	24.9	22.2	22	1.6
950	30	600	22.1	18.6	22	2.7
900	30	1,069	19.8	13.2	22	2.1
850	30	1,560	17.1	8.6	21	1.1
800	30	2,076	14.1	4.6	21	1.4
750	30	2,617	10.7	1.3	21	1.5
700	30	3,189	7.1	-3.3	21	1.4
650	30	3,795	3.6	-7.4	22	1.7
600	30	4,441	.1	-11.7	26	1.1
550	30	5,134	-3.6	-15.5	28	2.1
500	30	5,881	-7.9	-20.4	28	2.8
450	30	6,693	-12.9	-25.0	29	3.1
400	30	7,581	-18.7	-30.0	28	3.5
350	30	8,565	-25.8	-37.9	26	3.7
300	30	9,661	-34.1	-46.2	27	4.8
250	30	10,911	-43.9		27	6.3
200	30	12,372	-55.4		28	8.1
175	30	13,211	-61.6		28	9.1
150	30	14,153	-67.3		29	8.3
125	30	15,241	-70.7		32	6.0
100	30	16,559	-71.4		34	3.3
80	30	17,889	-67.4		06	4.1
70	30	18,701	-64.5		08	5.7
60	30	19,651	-61.2		08	9.1
50	30	20,793	-57.9		09	13.1
40	29	22,208	-54.6		10	14.7
30	29	24,069	-50.3		09	13.9
25	28	25,261	-48.3		09	13.5
20	27	26,741	-46.3		09	13.6
15	25	28,668	-43.3		08	15.6
10	16	31,420	-38.2		09	17.8
7	9	33,895	-35.6			

WINNEMUCCA, NV
868 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	28	1,312	14.4	5.1	03	.7
1000						
950						
900						
850	28	1,494	18.0	4.1	03	1.3
800	28	2,011	16.0	1.5	36	1.6
750	28	2,557	12.2	-.6	35	1.9
700	28	3,130	8.0	-3.4	28	1.8
650	28	3,737	3.6	-5.5	25	3.6
600	28	4,382	-1.2	-7.9	23	5.4
550	28	5,070	-5.9	-13.7	23	5.7
500	28	5,810	-10.8	-20.5	23	6.1
450	27	6,609	-16.0	-26.0	24	5.9
400	27	7,486	-22.4	-32.4	24	6.0
350	27	8,455	-29.8	-40.3	24	6.8
300	27	9,530	-39.0	-48.5	24	7.6
250	27	10,754	-49.2		24	9.0
200	27	12,186	-58.0		24	10.2
175	27	13,022	-60.5		24	10.2
150	27	13,981	-60.9		24	10.4
125	26	15,112	-61.1		24	9.9
100	26	16,498	-61.7		23	5.6
80	23	17,878	-61.5		20	2.8
70	22	18,708	-60.1		15	2.0
60	20	19,678	-58.2		11	3.0
50	20	20,831	-56.4		08	5.1
40	18	22,256	-54.3		10	6.2
30	18	24,112	-51.8		08	7.1
25	18	25,300	-49.6		08	8.3
20	18	26,772	-46.6		09	10.0
15	17	28,696	-42.7		09	10.9
10	15	31,455	-37.0			
7						

WINSLOW, AZ
852 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	1,487	14.4	1.0	17	1.8
1000						
950						
900						
850	27	1,512	16.0	.7	18	1.8
800	30	2,031	19.7	.2	24	2.4
750	30	2,582	15.8	-2.8	25	3.3
700	30	3,163	11.4	-5.2	24	3.3
650	30	3,778	6.7	-7.3	23	4.0
600	30	4,428	1.4	-10.0	22	4.9
550	30	5,122	-4.0	-13.5	21	5.5
500	30	5,867	-9.5	-19.6	21	6.1
450	29	6,673	-15.0	-26.2	21	5.7
400	29	7,553	-21.3	-34.1	22	6.2
350	29	8,527	-28.6	-39.8	23	6.7
300	28	9,612	-37.3	-49.3	23	7.7
250	28	10,846	-47.2		23	10.1
200	28	12,290	-56.2		24	12.1
175	28	13,133	-59.0		25	13.8
150	28	14,093	-61.9		25	12.1
125	28	15,213	-65.0		24	10.0
100	28	16,566	-66.4		25	4.5
80	28	17,921	-65.3		13	1.7
70	28	18,739	-62.7		11	3.5
60	27	19,693	-60.5		09	4.6
50	27	20,839	-57.2		09	6.4
40	27	22,260	-54.3		09	6.8
30	26	24,116	-51.3		09	8.5
25	26	25,306	-49.4		09	8.4
20	24	26,781	-46.9		09	9.2
15	24	28,702	-43.5		09	11.3
10	16	31,466	-37.4			
7	5	33,958	-33.1			

YAKUTAT, AK
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	29	12	8.5	7.8	05	.7
1000	29	130	9.5	7.4	18	.7
950	29	555	7.3	5.2	15	1.2
900	29	998	4.5	2.3	17	1.3
850	29	1,462	1.7	-1.3	16	1.5
800	29	1,949	-.7	-5.1	16	1.7
750	29	2,462	-3.4	-8.7	15	2.3
700	29	3,005	-6.6	-12.4	13	2.9
650	29	3,581	-10.1	-16.6	13	2.9
600	29	4,193	-13.8	-22.1	13	2.8
550	29	4,849	-18.[illegible]	-27.2	12	3.2
500	29	5,554	-23.3	-33.7	13	3.9
450	29	6,316	-29.0	-39.1	12	3.9
400	29	7,148	-35.3	-45.7	13	3.5
350	29	8,068	-42.1		14	3.1
300	29	9,091	-49.3		18	2.9
250	29	10,279	-51.3		19	3.9
200	28	11,746	-46.8		18	3.4
175	27	12,630	-46.1		19	2.9
150	27	13,655	-46.6		17	2.9
125	27	14,863	-47.2		17	2.8
100	25	16,338	-47.7		15	2.2
80	25	17,811	-48.1		14	2.5
70	25	18,690	-48.7		12	2.8
60	23	19,710	-48.2		12	2.9
50	22	20,912	-47.9		11	3.8
40	22	22,385	-47.5		09	5.2
30	21	24,292	-46.8		09	6.7
25	21	25,505	-45.4		09	7.7
20	20	26,999	-43.1		09	10.0
15	19	28,952	-39.7		09	11.0
10	17	31,758	-34.1		09	12.2
7	10	34,227	-31.1			

YAP, CAROLINE IS.
1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	14	28.3	24.8	10	[illegible]
1000	30	86	26.9	23.9	09	3.9
950	30	539	23.7	21.8	09	6.0
900	30	1,012	20.6	18.1	09	7.0
850	30	1,505	17.9	14.0	09	6.7
800	30	2,024	15.6	11.3	[illegible]	6.4
750	30	2,57[illegible]	13.0	6.9	[illegible]	[illegible]
700	30	3,148	[illegible]	2.0	09	6.2
650	30	3,761	6.6	-.6	10	6.8
600	30	4,415	2.7	-4.6	10	6.8
550	30	5,114	-1.2	-8.9	09	6.8
500	30	5,8[illegible]	-5.4	-14.1	10	6.4
450	30	6,690	-9.9	-19.7	[illegible]	5.6
400	30	7,589	-15.5	-26.5	09	5.2
350	29	8,5[illegible]	-22.2	-32.7	09	4.1
300	29	9,699	-30.4	-40.9	08	3.4
250	29	10,968	-40.8		09	[illegible]
200	29	12,445	-53.5		07	2.1
175	29	13,291	-60.4		05	3.1
150	29	14,233	-68.3		05	3.9
125	29	15,3[illegible]	-75.2		07	5.1
100	29	16,587	-77.8		07	7.3
80	29	17,876	-73.9		08	8.5
70	29	18,661	-70.9		08	12.0
60	28	19,583	-67.2		09	15.5
50	28	20,695	-62.5		09	21.3
40	27	22,086	-58.4		09	27.9
30	27	23,919	-52.9		09	32.2
25	26	25,104	-49.6		09	31.3
20	26	[illegible]6,578	-45.6		09	26.0
15	25	28,516	-40.8		09	16.8
10	22	31,294	-37.0		09	11.5
7	11	33,784	-35.1			

YUCCA FLAT, NV
879 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	1,198	15.5	1.6	28	.7
1000						
950						
900						
850	30	1,490	21.7	1.6	28	.8
800	30	2,013	18.9	-1.2	20	2.5
750	30	2,562	14.7	-3.7	21	4.0
700	30	3,140	10.0	-6.6	21	4.7
650	30	3,751	5.1	-8.7	20	4.6
600	30	4,399	.3	-11.7	20	5.1
550	30	5,090	-4.8	-15.1	21	5.0
500	30	5,833	-10.2	-20.7	21	5.4
450	30	6,637	-15.6	-25.8	22	6.2
400	29	7,517	-21.9	-33.6	23	6.4
350	29	8,488	-29.3	-40.4	22	6.0
300	29	9,567	-38.0	-47.2	23	5.0
250	29	10,795	-48.1		24	5.[illegible]
200	29	12,233	-57.6		24	7.7
175	29	13,071	-60.3		25	9.0
150	29	14,031	-60.9		24	9.8
125	29	15,160	-62.2		24	8.[illegible]
100	29	16,531	-64.4		23	4.5
80	29	17,895	-63.9		18	1.1
70	28	18,719	-62.0		10	1.9
60	28	19,678	-59.9		10	3.9
50	28	20,824	-57.2		10	5.0
40	27	22,247	-55.0		09	6.4
30	26	24,103	-52.1		09	7.3
25	25	25,293	-49.6		09	8.5
20	24	26,762	-47.1		09	9.9
15	21	28,682	-43.[illegible]		09	11.6
10	13	31,420	-38.8		10	12.4

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

JUNE 1977

Sun's zenith distance

Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, NM									
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
[illegible]	.76	.84	.97	1.11	1.37	----	----	----	----
2	----	(.92)	----	----	1.34	----	----	----	----
[illegible]	(.71)	(.83)	(.96)	(1.11)	(1.30)	----	----	----	----
5	----	----	----	(1.04)	(1.28)	----	----	----	----
6	.76	.83	1.00	1.13	----	----	.93	(.75)	(.63)
7	.63	.72	.87	1.02	----	1.05	.89	.71	.62
8	.74	.81	.93	1.09	1.34	1.10	.91	----	----
9	----	----	----	----	(1.35)	----	----	----	----
10	.81	.90	1.02	1.18	(1.37)	----	----	----	----
11	----	----	----	----	----	----	.99	.93	.87
12	.88	.96	1.10	1.24	1.45	----	----	----	----
13	.94	1.02	1.14	1.28	1.51	1.26	1.08	.96	.87
14	.87	.96	1.07	1.20	1.38	----	----	----	----
15	.90	.97	1.10	1.23	1.48	1.21	1.06	.94	.86
16	1.00	1.08	1.20	1.34	1.50	1.32	1.20	1.10	1.03
17	.91	1.01	(1.13)	----	(1.42)	----	(1.00)	----	----
21	----	----	----	----	1.28	----	----	----	----
24	----	----	(.93)	(1.04)	----	----	----	----	----
25	.83	.91	1.04	1.18	1.36	----	----	----	----
26	.79	.86	.97	1.10	1.30	----	----	----	----
27	.81	.88	1.01	1.08	1.33	----	----	----	----
28	.84	.90	1.02	1.17	1.36	----	----	----	----
30	.79	.86	.98	1.11	1.36	----	----	----	----
Averages	.83	.91	1.03	1.16	1.38	1.19	1.01	.93	.85
MADISON, WI									
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
2	----	----	----	----	S 1.33	----	----	----	----
3	----	----	----	----	S 1.31	----	----	----	----
[illegible]	----	S .88	S .98	S 1.13	----	----	----	----	----
[illegible]	S .89	S .97	S 1.08	S 1.22	----	----	----	----	----
14	M [illegible]	M .64	M .80	M .97	M 1.21	S 1.00	S .85	S .72	S .63
18	S [illegible]	S .81	S .91	S 1.15	S 1.36	S 1.08	S .96	S .85	S .75
19	S .74	S .81	S .96	S 1.13	S 1.30	S 1.11	S .93	----	S .70
20	----	----	.95	----	----	----	----	----	----
25	M .63	M .70	M .86	M 1.07	S 1.51	----	S .88	S .77	S .70
26	M .61	----	----	----	M 1.21	----	----	----	----
29	S .64	S .76	S .90	S 1.06	S 1.32	----	S .92	----	----
Averages	.68	.81	.94	1.10	1.29	1.06	.90	.78	.69
OMAHA, NE									
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
NO DATA RECEIVED									

Sun's zenith distance

Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
BLUE HILL OBSERVATORY, MA									
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
NO DATA RECEIVED									
MAUNA LOA OBSERVATORY, HA									
Air mass	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1	----	----	----	----	1.63	1.47	1.35	1.27	1.19
2	----	----	----	----	1.60	1.47	1.35	1.26	1.18
3	----	----	----	----	1.63	1.47	1.34	1.25	1.16
4	----	----	----	1.48	1.60	1.45	1.34	1.25	1.18
6	----	----	1.39	1.50	1.57	----	----	----	----
7	----	----	1.37	1.47	----	----	----	----	----
8	----	----	1.38	1.49	----	----	----	----	----
9	----	----	----	1.48	1.60	1.47	1.37	1.28	1.21
10	----	----	1.39	1.49	1.61	1.46	1.37	1.27	1.20
11	----	----	1.37	1.48	1.60	1.45	1.35	1.26	1.19
13	----	----	1.32	1.44	1.56	1.43	1.32	1.23	1.11
14	----	----	1.32	1.43	1.58	1.42	1.32	1.24	1.13
15	----	----	1.34	1.46	1.60	1.45	1.35	1.26	1.19
16	----	----	----	----	1.58	1.44	1.33	1.24	1.13
17	----	----	----	----	----	1.43	1.33	1.23	1.16
18	----	----	1.38	1.45	1.59	1.46	1.36	1.27	1.20
20	----	1.31	1.39	1.49	1.60	1.45	1.34	1.24	1.13
21	----	----	1.36	1.46	1.60	1.45	1.33	1.24	1.15
22	----	1.26	1.35	1.45	1.57	1.42	1.30	1.21	1.13
23	----	----	----	----	1.57	1.40	1.31	1.22	1.13
24	----	----	1.37	1.47	----	----	----	----	----
25	----	1.20	1.29	1.41	1.52	----	----	----	1.13
Averages	----	1.25	1.36	1.47	1.59	1.45	1.34	1.25	1.16
TUCSON, AZ									
Air mass	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1	.51	.61	.74	.92	1.20	----	----	----	----
2	.50	.61	.75	.93	1.21	----	----	----	----
3	----	.61	.77	.97	----	----	----	----	----
6	----	----	----	----	1.35	----	----	----	----
7	----	----	----	----	1.30	----	----	----	----
8	.61	.71	.89	1.05	1.31	----	----	----	----
9	.81	.90	.98	1.17	1.34	1.12	.95	.82	.73
10	.82	.95	1.09	1.18	1.40	1.15	.98	.90	.86
11	.83	.93	1.04	1.18	1.38	1.23	1.10	.98	.90
12	.84	.94	1.06	----	----	1.25	1.11	.99	.92
13	.88	.98	1.10	1.26	1.44	1.24	1.10	.97	.90
14	.89	1.00	1.13	1.29	1.46	1.31	1.18	1.08	.95
15	.92	1.00	1.13	1.29	1.48	1.27	1.11	.97	.90
16	.86	.96	1.09	1.23	1.43	1.21	1.06	.94	.82
17	----	----	1.00	----	1.40	----	----	----	----
18	.80	.90	1.00	1.15	1.34	----	----	----	----
19	----	----	----	----	1.37	----	----	----	----
20	----	----	1.00	1.17	1.33	1.16	.97	.85	.77
21	.70	.84	.96	1.14	----	----	----	----	----
23	.55	----	----	----	1.21	.99	.83	.61	.50
24	----	----	.84	1.04	1.28	1.07	.90	.74	.63
25	.56	.64	----	1.02	1.28	1.04	.87	.72	.63
26	.74	.85	.97	1.14	1.37	1.17	1.03	.92	.82
27	.77	.89	1.01	1.17	----	1.12	.94	.84	.74
28	.61	.72	.86	1.05	1.31	----	.91	.78	.66
29	----	----	.80	.99	1.23	.97	.80	----	----
30	----	----	----	----	----	1.02	.86	.74	.64
Averages	.73	.84	.96	1.12	1.34	1.14	.98	.87	.77

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

JUNE 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	203	253	295	254	85	273	237	218	278	215	273	280	190	188	203	251	117	139	182	285	195	56	114	226	266	232	232	233	266	261		214

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code [illegible] defined in the August 1962 WMO circular entitled PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA.

Units: Milli atmo-cms

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	[illegible]

TOTAL OZONE DATA FORMERLY INCLUDED HERE IS BEING
PUBLISHED IN OZONE DATA FOR THE WORLD BY THE
WORLD OZONE DATA CENTRE
ATMOSPHERIC ENVIRONMENT SERVICE
4905 DUFFERIN STREET
DOWNSVIEW, ONTARIO, CANADA M3H 5T4

SOLAR RADIATION INTENSITIES LATE REPORTS

Tabulated in langleys per minute on a surface normal to the direction of the sun.

MAUNA LOA OBSERVATORY, HA

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
Dec. 1976									
1-----	----	----	----	----	1.56	1.41	1.33	1.24	1.15
2-----	1.22	1.29	1.39	1.50	1.56	1.45	1.32	1.23	1.15
3-----	1.27	1.35	1.45	1.55	1.57	1.49	1.38	1.28	1.19
4-----	1.24	1.31	1.40	1.50	1.57	1.45	1.33	1.23	1.15
5-----	1.23	1.32	1.42	1.53	1.57	----	----	----	----
6-----	----	----	----	----	----	1.40	1.24	1.13	1.05
7-----	1.27	1.36	1.45	1.56	----	----	1.38	1.27	1.19
8-----	1.30	1.41	1.50	1.59	----	----	----	----	----
9-----	1.20	1.28	1.36	1.47	----	----	----	----	----
10----	1.19	1.27	1.37	----	----	----	----	----	----
11----	----	1.27	1.38	1.48	1.54	1.45	1.35	1.25	1.18
12----	1.32	1.40	1.49	1.58	1.61	1.47	1.33	1.25	1.23
13----	1.29	1.37	1.46	1.56	1.58	1.49	1.37	2.28	1.21
14----	1.29	1.37	1.46	1.56	1.58	1.41	1.28	1.25	1.10
15----	1.30	1.38	1.47	1.57	1.63	1.50	1.38	1.29	1.22
16----	1.35	1.43	1.51	1.61	1.64	1.53	1.41	1.32	1.24
17----	1.28	1.35	1.45	1.55	1.57	1.43	1.32	1.22	1.18
18----	1.30	1.38	1.47	1.57	1.59	1.50	1.38	1.29	1.21
19----	1.33	1.41	1.51	1.60	1.61	1.46	1.30	1.22	1.14
20----	1.37	1.44	1.53	1.61	1.61	----	1.31	1.24	1.16
21----	1.33	1.40	1.49	1.59	1.60	1.48	1.37	1.26	1.18
22----	1.32	1.35	1.48	----	----	----	1.40	1.30	1.23
23----	1.30	1.38	1.48	1.57	----	1.50	1.37	1.28	1.20
24----	1.32	1.38	1.47	1.57	----	1.50	1.24	1.03	.90
25----	1.33	1.43	1.49	1.60	1.62	1.36	----	----	----
26----	1.33	1.42	1.50	1.57	----	----	1.17	.98	.83
28----	----	1.49	----	----	----	1.48	1.38	1.29	1.21
29----	1.29	1.39	1.49	1.57	1.63	1.57	1.47	1.38	1.29
30----	[illegible]	1.52	1.61	1.81	1.73	1.60	1.49	1.39	1.32
Averages	1.31	1.38	1.46	1.57	1.60	1.47	1.35	1.29	1.16

MAUNA LOA OBSERVATORY, HA

Date	Sun's zenith distance A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass 3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
Jan. 1977									
1-----	1.43	1.51	1.59	1.68	1.68	1.51	1.36	1.15	1.00
2-----	1.37	1.45	1.54	1.64	----	----	----	----	----
3-----	----	1.42	1.51	1.61	1.63	----	----	----	----
4-----	1.31	1.40	1.49	1.59	1.60	1.45	1.32	1.20	1.12
5-----	----	1.39	1.49	1.57	1.62	1.45	1.34	1.24	1.16
6-----	----	----	1.48	1.58	1.60	1.49	1.39	1.32	1.24
7-----	1.31	1.39	1.48	1.58	1.61	1.46	1.33	1.25	1.18
8-----	1.33	1.41	1.50	1.61	1.65	1.49	1.37	1.31	1.24
9-----	1.37	1.45	1.53	1.63	1.68	1.54	1.41	1.35	1.28
10----	1.38	1.45	1.53	1.63	1.63	1.56	1.37	1.28	1.21
11----	1.36	1.44	1.53	1.62	1.63	----	----	----	----
12----	1.35	1.43	1.53	1.63	1.68	1.47	1.38	1.30	1.22
13----	1.29	1.37	1.47	1.58	1.69	1.54	1.43	1.34	1.25
14----	1.34	1.43	1.52	1.62	1.69	1.51	1.37	1.26	1.15
15----	1.33	1.42	1.52	1.60	1.62	1.44	1.32	1.24	1.15
16----	1.34	1.42	1.51	1.61	1.63	1.45	1.32	1.23	1.15
17----	1.36	1.43	1.52	1.63	1.62	1.44	1.33	1.22	1.13
18----	1.32	1.40	1.50	1.59	1.65	1.47	1.35	1.25	1.16
19----	1.33	1.41	1.49	1.59	1.63	1.51	1.39	1.31	1.29
20----	1.36	1.44	1.54	1.65	1.69	1.55	1.43	1.35	1.25
21----	1.40	1.49	1.57	1.68	1.73	1.62	1.48	1.37	1.31
22----	1.45	1.53	1.62	1.70	1.72	1.57	1.45	1.34	1.25
23----	1.35	1.44	1.53	1.64	1.66	1.49	1.37	1.26	1.25
24----	1.37	1.46	1.54	1.65	1.71	1.54	1.41	1.33	1.25
25----	1.30	1.39	1.48	1.60	1.65	1.46	1.35	1.26	1.17
26----	1.33	1.41	1.50	1.61	1.65	----	----	----	----
27----	1.33	1.40	1.49	1.60	1.65	1.46	1.32	1.24	1.18
Averages	1.35	1.43	1.48	1.62	1.66	1.50	1.37	1.28	1.20

MAUNA LOA OBSERVATORY, HA

	Air mass 3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
Feb. 1977									
1-----	1.20	1.28	1.37	1.48	1.56	----	----	----	----
2-----	1.32	1.38	1.46	1.53	1.55	----	----	----	----
3-----	1.24	1.31	1.39	1.49	1.54	1.41	1.29	1.19	1.11
4-----	1.29	1.35	1.43	1.52	1.56	----	----	----	----
5-----	1.24	1.32	1.41	1.51	1.55	----	----	----	----
6-----	1.27	1.34	1.43	1.53	1.60	----	----	----	----
7-----	----	----	----	----	1.57	1.46	1.34	1.26	1.19
8-----	1.20	1.29	1.39	1.50	1.54	1.46	1.36	1.26	1.20
9-----	1.20	1.29	1.38	1.49	1.58	1.49	1.37	1.28	1.19
10----	1.26	1.33	1.42	1.52	1.57	1.43	1.34	1.26	1.18
11----	1.23	1.31	1.40	1.50	1.56	1.47	1.36	1.28	1.19
12----	1.21	1.29	1.39	1.49	----	1.43	1.32	1.24	1.17
13----	1.23	1.31	1.41	1.51	----	1.45	1.35	1.27	1.20
15----	1.27	1.34	1.43	1.52	1.54	----	----	----	----
16----	1.22	1.29	1.38	1.47	1.27	1.43	1.32	1.23	1.15
17----	1.23	1.30	1.37	1.47	1.55	1.39	1.24	1.10	.99
18----	1.28	1.34	1.39	1.47	----	----	----	----	----
22----	----	----	----	----	----	----	----	----	1.16
23----	1.24	1.30	1.38	1.48	----	----	----	----	----
25----	----	----	----	----	----	----	1.30	1.21	1.14
26----	1.25	1.30	1.37	----	----	----	----	----	----
Averages	1.24	1.32	1.40	1.50	1.54	1.44	1.33	1.23	1.16

MAUNA LOA OBSERVATORY, HA

	Air mass 3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
Mar. 1977									
4-----	1.24	1.33	1.43	1.56	1.67	1.56	1.43	1.34	1.26
5-----	1.29	1.35	1.45	1.56	1.67	1.56	1.42	1.32	1.23
6-----	1.28	1.36	1.45	1.56	----	1.54	1.42	1.32	1.25
7-----	1.28	1.35	1.45	1.58	1.69	1.56	1.44	1.35	1.26
8-----	1.29	1.37	1.46	1.58	1.69	1.57	1.46	1.37	1.29
9-----	1.34	1.41	1.49	1.59	1.70	1.57	1.46	1.37	1.30
10----	1.34	1.40	1.49	1.59	1.68	1.52	1.42	1.34	1.26
11----	1.29	1.41	1.49	1.60	1.68	1.52	1.42	1.32	1.24
12----	1.20	1.30	1.38	1.51	1.61	1.51	----	----	----
15----	1.23	1.32	1.41	1.52	----	1.50	1.40	1.31	1.23
16----	1.25	1.34	1.46	1.57	----	1.55	1.43	1.36	1.28
17----	1.29	1.36	1.45	1.54	1.66	1.52	1.40	1.30	1.21
18----	1.30	1.37	1.47	1.56	1.68	1.52	1.41	1.36	1.26
22----	----	----	1.43	1.53	1.70	1.54	1.42	1.33	1.25
23----	----	----	1.44	1.51	1.69	1.54	1.42	1.32	1.23
24----	----	----	----	1.44	1.63	1.48	1.33	1.17	1.04
25----	----	----	1.43	1.53	1.62	1.49	1.36	1.26	1.18
26----	----	----	1.43	1.54	1.61	1.43	1.30	1.17	1.09
27----	----	----	1.41	1.53	----	----	----	----	----
28----	----	----	----	1.53	----	1.46	1.35	----	----
30----	----	----	----	1.41	1.59	1.43	1.28	1.15	1.05
31----	----	----	1.31	1.46	1.60	1.45	1.32	1.21	1.11
Averages	1.28	1.36	1.44	1.54	1.66	1.52	1.39	1.30	1.21

CORRECTIONS

DATE	TABLE	CORRECTION
MAY 1977	TEMPERATURE AND PRECIPITATION EXTREMES	LEAST TOTAL PRECIPITATION: DUBOIS, .22.

Chart III Track of Centers of Anticyclones at Sea Level should read May 1977 instead of May 1976 on Page 34.

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
▴	Storm damages are placed in categories varying from 1 to 9 as follows

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
___	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

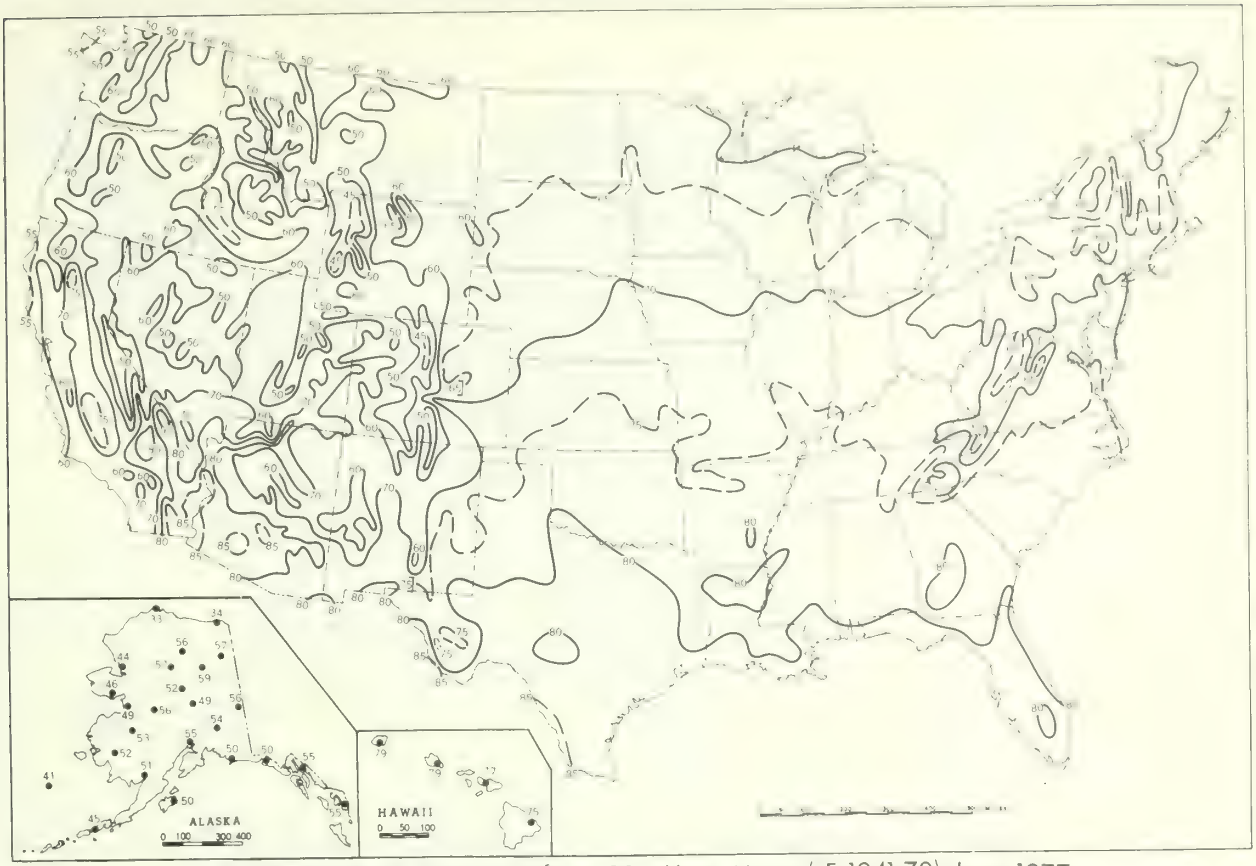
()	Clouds Present
*	Values corresponding to true solar noon
BD	Blowing Dust
BN	Blowing Sand
D	Dust
DI	Intense Dust
DM	Moderate Dust
DS	Slight Dust
F	Fog
GF	Ground Fog
H	Haze
HI	Intense Haze
HM	Moderate Haze
HS	Slight Haze
I	Intense Haze-indeterminable
K	Smoke
KI	Intense Smoke
KM	Moderate Smoke
KS	Slight Smoke
M	Moderate Haze-indeterminable
N	Sand
S	Slight Haze-indeterminable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

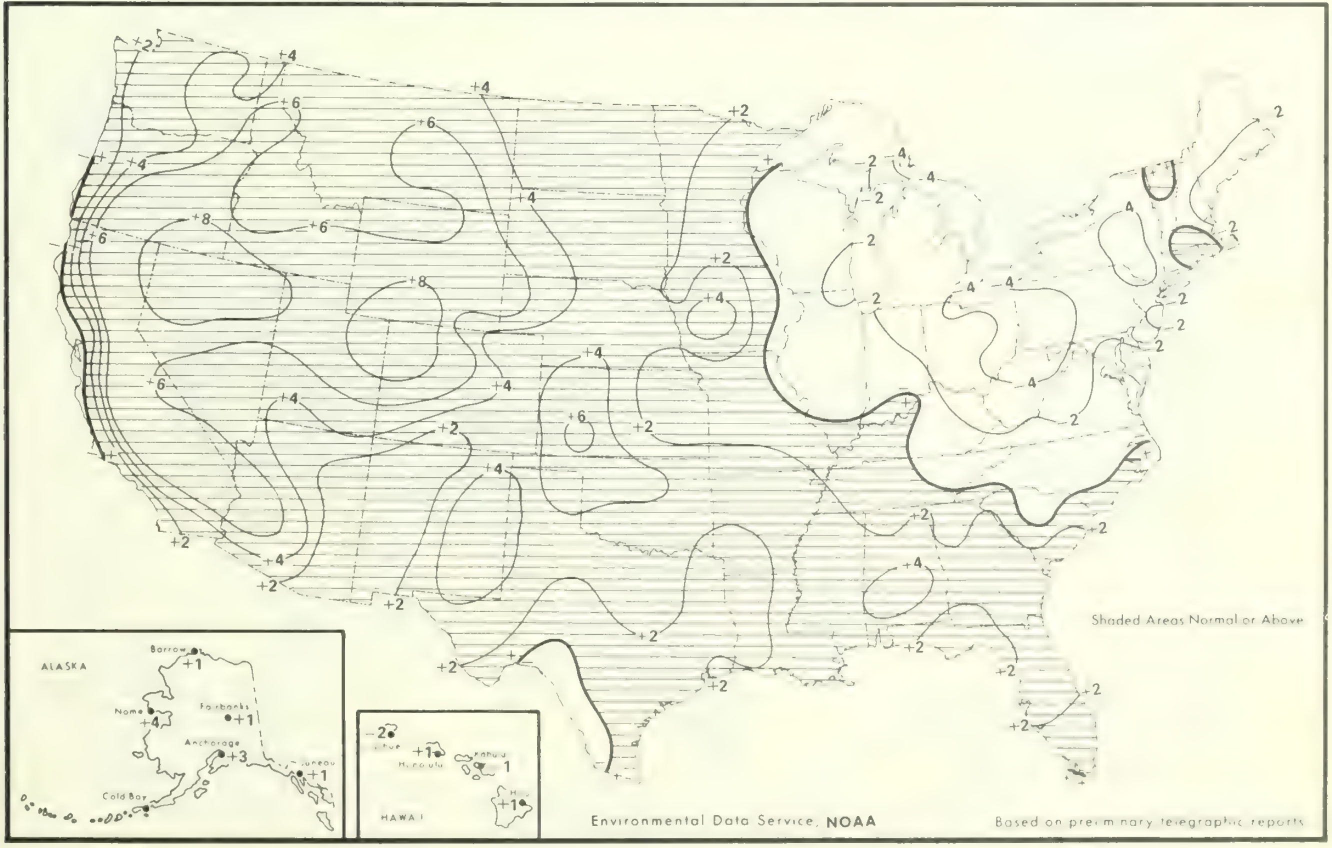
These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), June.



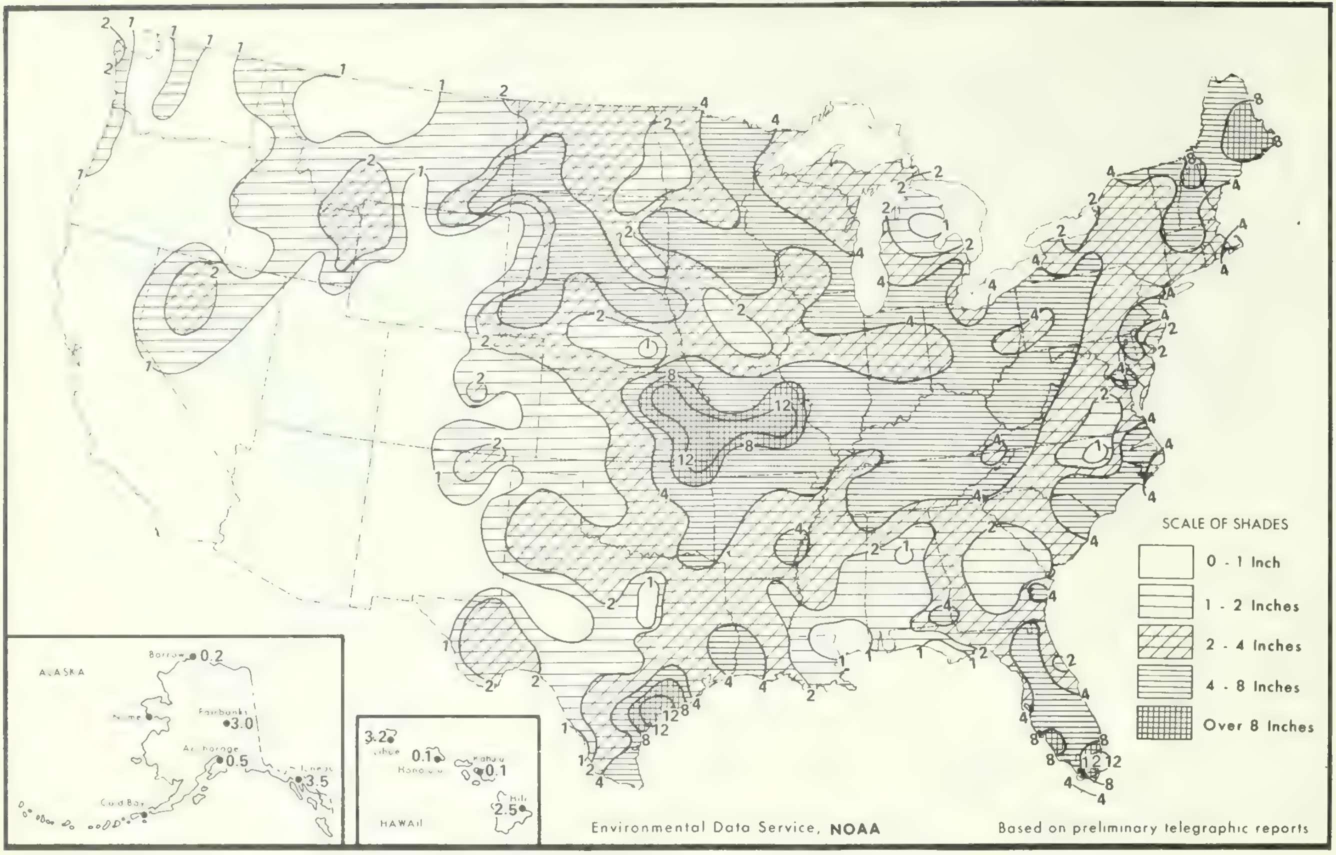
B. Temperature Departure from 30 - Year Mean (F 1941-70), June 1977



Environmental Data Service, NOAA

Based on preliminary telegraphic reports

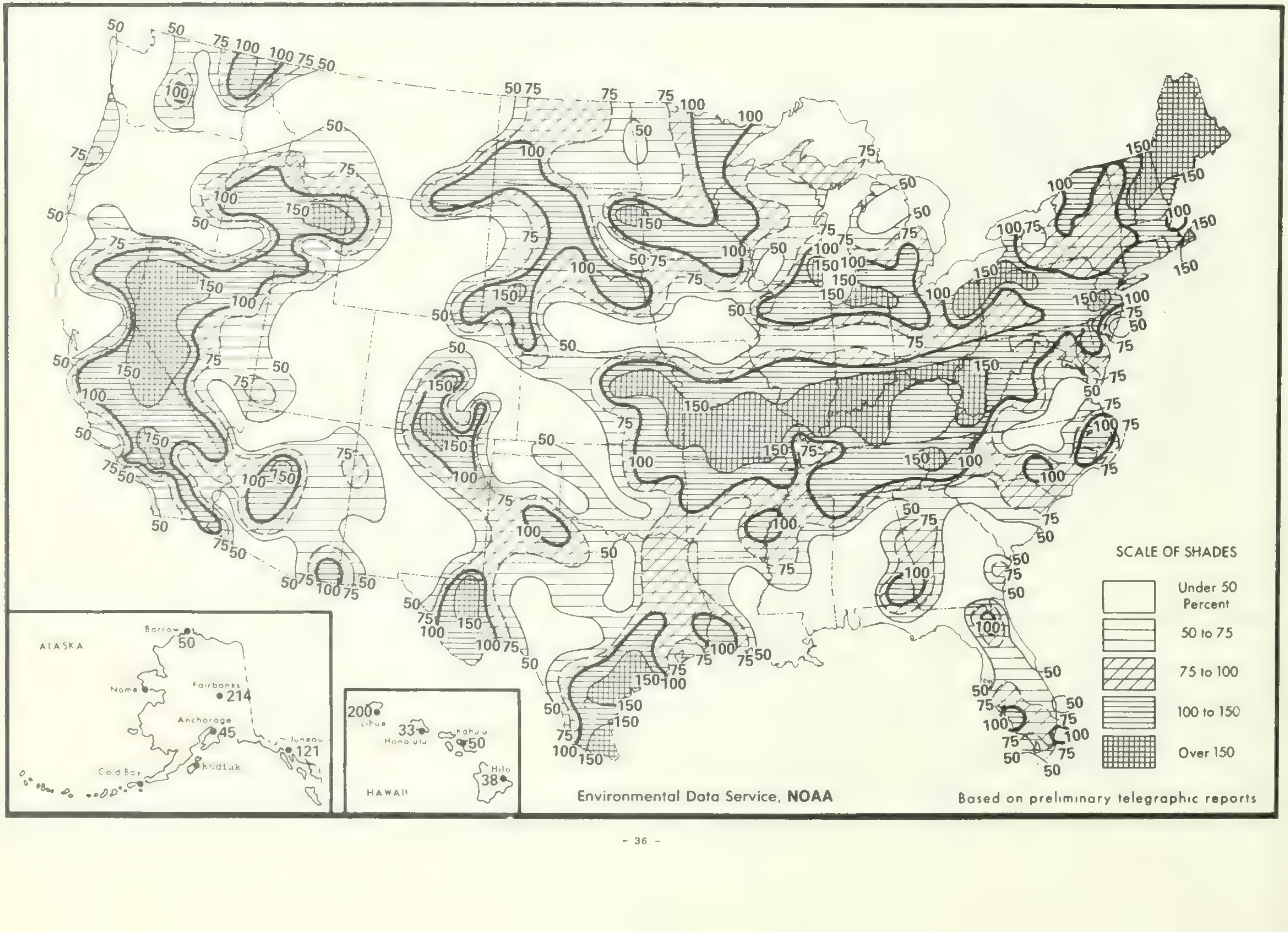
Chart II A Total Precipitation (Inches), June 1977



Environmental Data Service, **NOAA**

Based on preliminary telegraphic reports

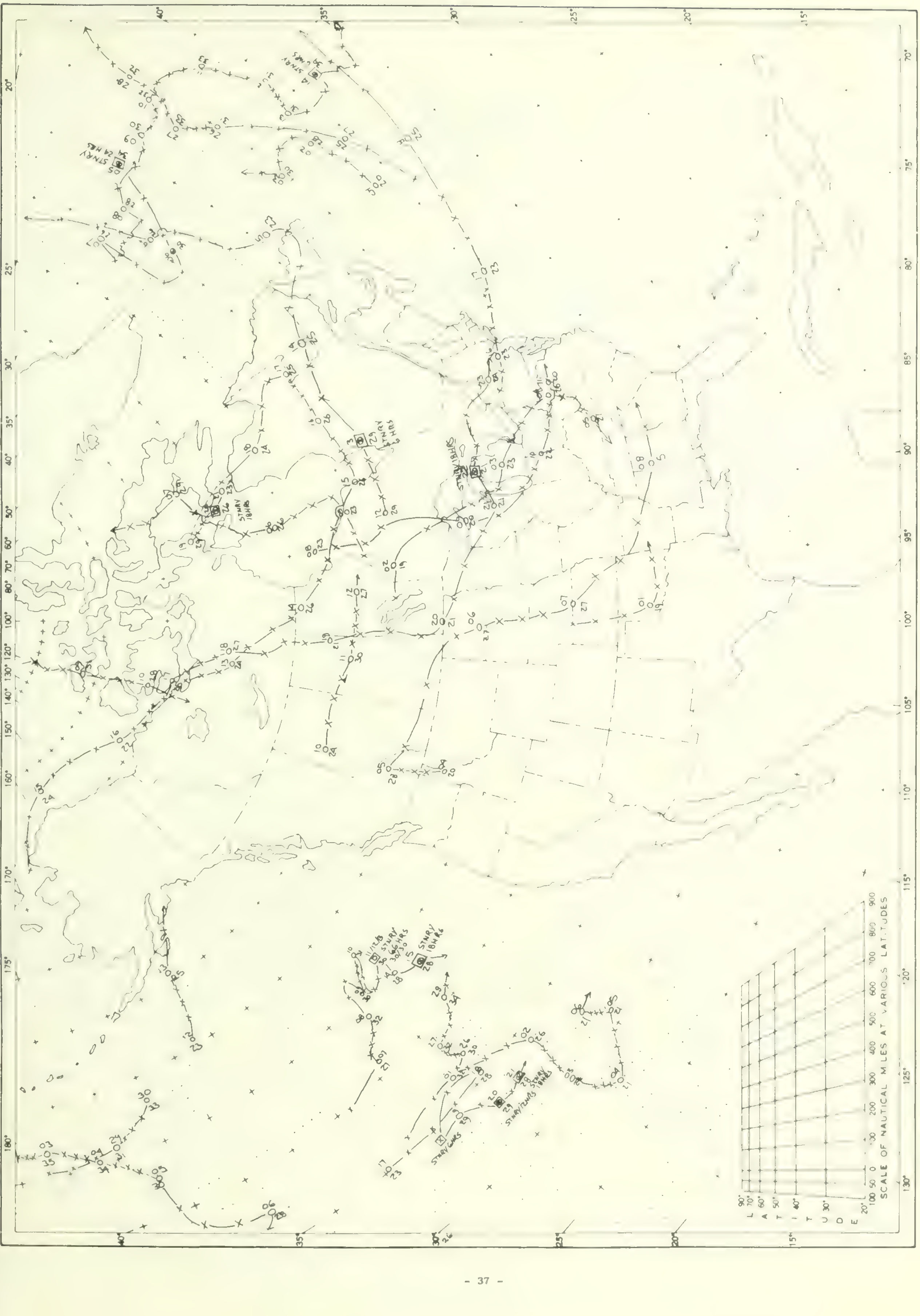
B. Percentage of Normal Precipitation, June 1977



Environmental Data Service, **NOAA**

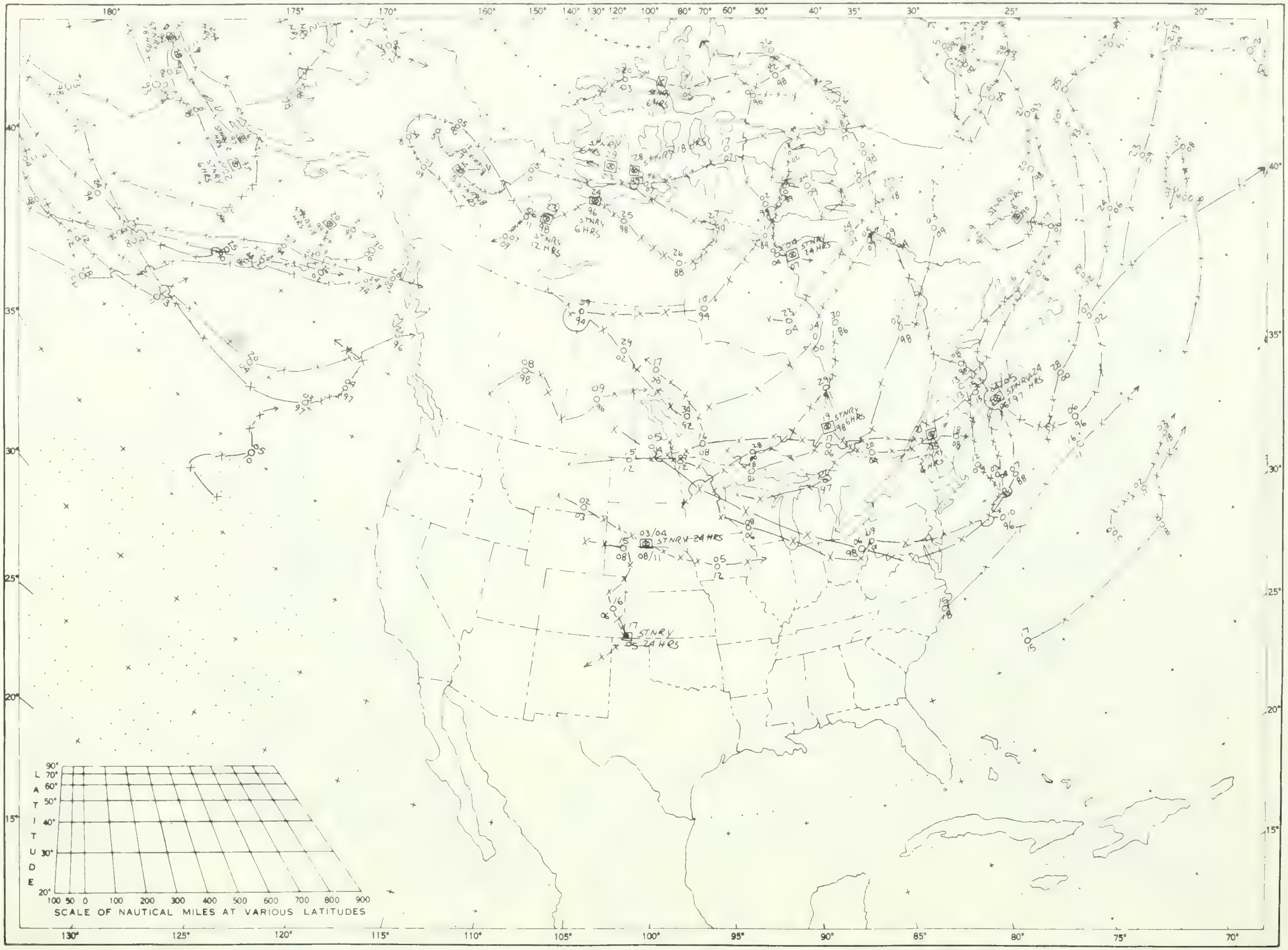
Based on preliminary telegraphic reports

Chart III. Tracks of Centers of Anticyclones at Sea Level, June 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV   Tracks of Centers of Cyclones at Sea Level, June 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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JULY 1977 VOLUME 28 NUMBER 7

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

DEC [illegible] 1977
SCI. TECH. & AG. DIV.

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JULY 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: Hot weather, thunderstorms and tornadoes marked a typical July. The average temperature for the month was warmer than normal in a large part of the eastern United States. Temperatures averaged 4 to 6° above normal in the Central Plains and southwestern Lakes region. Although part of this area had less than normal precipitation, it fell in regular intervals during the hottest parts of the month so the high evaporation rate did not put heavy stress on most crops. Much of the dry area in the East accumulated only 20 to 30% or less of its normal rainfall.

July began, typically, with warm weather, showers, and thunderstorms. Showers were especially welcome in the Southeast, where much of the area from Mississippi through Georgia was dampened.

The first week of the month brought showers, thunderstorms, and some tornadoes to nearly all areas from the Rockies to the East Coast. Needed rain covered most of the very dry area of eastern North Dakota and northwestern Minnesota. Much of Nebraska and eastward across the northern half of Iowa enjoyed one to two inches of rain. Significant rain fell in the lower Mississippi Valley, Ohio Valley, and central Florida, but from central Alabama through northern Florida and Georgia northward to western Virginia, the showers were light and spotty. Most of the East was warmer than normal. The Central Plains and parts of the Corn Belt averaged 3 to 6° warmer than normal.

The second week of July was even warmer than the first; only the Pacific Northwest was cooler than normal. The warmest areas were again the central Plains and the area from Iowa into Ohio where temperatures averaged 6 to 9° warmer than normal for the week. Readings of 100° and over occurred at a number of stations in these areas. Good rains came to much of the warmest areas tending to offset the high rate of moisture depletion from hot weather.

The warm, moist air resulted in extensive thunderstorms throughout the week. Heavy amounts of rain fell in parts of the Midwest and in the south central States, but again showers were light and spotty from western Virginia to Georgia.

The week following mid-July brought even more widespread showers. All the way from the Intermountain and Plateau regions in the West to the East Coast, showers of varying intensity fell. Exceptions were western North Dakota, eastern Montana, parts of Virginia, and Texas, where little or no rain occurred. Most of the northern portion of the Corn Belt had 1 to 2 inches of rain from showers. Heavy rain in west central Pennsylvania resulted in catastrophic flooding at Johnstown.

Warmer weather persisted, but some cooling began in the northern States. However, the week averaged well above normal temperatures over most of the United States. On at least one day, every State except Washington and Oregon reported temperatures above 90°.

The last week of July again produced widespread precipitation from the western Rockies to the East Coast although many areas reported only light showers. A frontal system moved into the South and caused heavy rain in Mississippi, Alabama, Georgia, and eastern North and South Carolina. The rain came too late for some crops, but helped others. Additional rain was needed from Georgia northward. The Nation cooled to near normal temperatures in most areas except parts of New England, where readings averaged 3 to 6° cooler than normal.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

JULY 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Bankhead Lock and Dam	107	8	2 Stations	56	3	Cuba	9.88	Muscle Shoals FAA AP	.92
Alaska	4 Stations	92	31+	2 Stations	26	13+	Mac Leod Harbor	12.90	Barter Island WSO AP	T
Arizona	Willow Beach	118	1	Fort Valley	33	6	Rucker Canyon	7.28	3 Stations	.00
Arkansas	Waldron	106	25	4 Stations	60	31+	Natural Dam	11.47	Judd Hill	1.58
California	Death Valley	122	31	Termo	19	5	Dunsmuir Ranger Station	1.73	232 Stations	.00
Colorado	4 Stations	106	20+	4 Stations	30	31+	Allenspark	6.60	3 Stations	.46
Connecticut	Norwalk Gas Plant	102	22+	Bulls Bridge Dam	38	28	Stafford Springs 2	4.38	Ansonia 1 NE	.93
Delaware	Milford 2 WSW	102	21+	Georgetown 5 SW	47	28	Newark University Farm	2.84	Wilmgton Porter Reservoir	1.12
Florida	Quincy 3 SSW	102	14	4 Stations	60	25+	Everglades	14.72	Gainesville 2 WSW	1.44
Georgia	Thomaston 2 S	106	14	2 Stations	55	3	Albany 3 SE	9.73	Newington 2 NE	.50
Hawaii	2 Stations	94	9+	Mauna Loa Slope Obs, HA	34	23+	Puohokamoa 2 343, Maui	28.40	18 Stations	.00
Idaho	Dworshak Fish Hatchery	110	24	Stanley	24	7	Dubois Exp. Station	3.67	Gooding Airport	.17
Illinois	2 Stations	103	15+	Mount Carroll	40	27	Gebhard Woods State Park	9.38	Bentley 1 E	.46
Indiana	3 Stations	100	16+	Angola	42	27	Greenfield	7.38	2 Stations	1.01
Iowa	Vinton	105	14	Sibley	44	1	Waukon	9.98	Bloomfield	.79
Kansas	Hunter	112	24	Atwood	46	1	Dunlap	7.53	Hunter	.12
Kentucky	Gilbertsville KY Dam	102	17	Gray Hawk	50	3	Blaine	8.22	Scottsville 2 SW	1.50
Louisiana	2 Stations	103	4+	2 Stations	62	7+	Abita Springs Fire Tower	10.82	Mooringsport 1 N	.48
Maine	Saco	100	21	2 Stations	35	28	Bar Harbor 3 NW	5.82	Grand Lake Stream	.70
Maryland	2 Stations	102	21	Oakland 1 SE	42	23	Hancock Fruit Lab.	7.86	Assateague State Park	1.33
Massachusetts	Chester 2	104	21	Chester 2	33	27	Cherterfield	6.11	West Falmouth	1.13
Michigan	Marquette WSO CI	104	19	Houghton Lake 6 WSW	32	27	St. Ignace-Markinac Br.	6.70	Eau Claire 4 NE	.72
Minnesota	Browns Valley	105	20	Tower 3 S	32	9	Jordan 1 S	6.90	Canby	1.22
Mississippi	State University	106	7	2 Stations	60	11+	Buckatunna	14.07	Swan Lake	.91
Missouri	2 Stations	103	25+	Bowling Green 2 NE	48	27	Carrollton	7.38	Belleview	.50
Montana	Mizpah 4 NNW	109	17	Wisdom	24	7	Hungry Horse Dam	3.84	2 Stations	.07
Nebraska	2 Stations	108	18	Agate 3 E	37	11	Taylor	7.32	Trenton Dam	.57
Nevada	Sunrise Manr Las Vegas	116	30+	Mountain City Ranger Sta.	29	7	Contact	1.94	5 Stations	.00
New Hampshire	Concord WSO AP	101	21+	Mount Washington	31	27+	Mount Washington	3.99	Hanover	.98
New Jersey	Chatsworth	104	19	Newton St. Pauls Abbey	43	27	Blackwells Mills	8.72	Essex Fells Service Bldg.	.81
New Mexico	2 Stations	105	31	Ruidoso 2 NNE	35	31	Eagle Nest	5.84	Ochoa	.00
New York	2 Stations	104	21	Old Forge	30	27	Friendship 7 SW	11.54	Scarsdale	1.02
North Carolina	9 Stations	105	9+	Transou	43	27	Sloan 3 S	7.14	Chapel Hill 2 W	.27
North Dakota	Oakes 2 S	108	20+	4 Stations	39	21+	Napoleon	7.82	New Town	.49
Ohio	Greenville Water Plant	104	7	Geneva 3 S	40	27	Norwalk Sewage Plant	12.71	Findlay Sewage Plant	1.19
Oklahoma	Nowata	111	25	2 Stations	57	1	Fort Gibson Dam	7.29	Altus Irrigation Resch Stn	.10
Oregon	2 Stations	106	31+	3 Stations	23	5	Silver Creek Falls	1.72	13 Stations	.00
Pennsylvania	2 Stations	103	22+	Clermont 4 NW	33	27	Marion Center 2 SE	15.29	Marcus Hook	.75
Puerto Rico	Magueyes Island	97	11	Utuado	57	26	Mayaguez Nuclear Center	20.90	Coamo 4 S	.30
Rhode Island	Providence WSO AP	100	21+	Kingston	44	28	North Foster 1 E	3.54	Kingston	1.46
South Carolina	2 Stations	108	21	Caesars Head	53	29	2 Stations	7.71	Rainbow Lake	.22
South Dakota	Maurine 10 SW	114	18	Deerfield 4 NW	32	3	Wagner	6.31	Redfield 6 E	.34
Tennessee	Chattanooga WSO AP	104	8	2 Stations	52	28+	Cheatham Lock and Dam	6.89	Bolivar Water Works	.71
Texas	Quanah 5 SE	111	26	Mount Locke	54	22	Houston-Deer Park	6.41	28 Stations	.00
Utah	Hanksville	108	16	3 Stations	30	31+	Beaver Canyon Power House	4.42	Enterprise	.15
Vermont	2 Stations	99	21+	Mount Mansfield	31	22	Mount Mansfield	5.20	Chelsea	1.04
Virginia	2 Stations	105	6	Floyd 2 NE	42	27+	West Point 2 SW	6.31	Holcombs Rock	.31
Virgin Islands	Frenchmans Bay	94	10	Cruz Bay	68	10	Alex Hamilton Field FAA	2.93	Truman Field FAA AP	1.08
Washington	Dallesport FAA AP	103	25+	Rainier Paradise R S	23	2	Arlington	3.11	3 Stations	.00
West Virginia	Wardensville R M Farm	102	21	Canaan Valley	37	27+	Mannington 1 N	8.80	Petersburg 3 SW	1.38
Wisconsin	Shawano 2 SSW	103	19	Newald 4 N	35	26	Blue Mounds 5 S	11.04	Dodge	1.76
Wyoming	Torrington Exp. Farm	111	18	Lake Yellowstone	21	7	Archer	5.83	Cody	.21

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ☉	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max 32.2 °C or above	Temperature: No of days: Min 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Ice pellets: Total	Precipitation: Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
ALABAMA																																
BIRMINGHAM	189	996.3	1018.3	34.3	22.8	28.6	1.9	40.6	7	18.3	4	24	0	20.6	68	158	26	77	15	13	0	0	0.4	20	11.6	S	19+	4	16	11	6.3	53
HUNTSVILLE	190	995.6	1018.1	34.3	22.1	28.2	1.8	38.3	8	17.2	3	27	0	20.6	67	87	-37	29	9	11	0	0	0.5	18	12.5	12	17	7	14	10	5.9	
MOBILE	64	1010.5	1018.3	33.3	23.9	28.6	1.1	36.1	2+	21.1	10	25	0	22.8	77	197	-28	75	16	20	0	0	0.6	18	13.0	3	9	2	16	13	6.9	
MONTGOMERY	59	1011.2	1018.5	34.3	23.0	28.7	1.4	38.9	7	21.1	10	27	0	21.1	71	168	39	62	13	14	0	0	0.5	22	14.8	SW	9	7	14	10	6.1	63
ALASKA												8																				
ANCHORAGE	35	1009.5	1014.3	21.3	12.6	17.0	2.6	27.2	11	9.4	28	19	0	10.0	65	35	-18	11	9	1	0	0	1.8	19	9.4	16	26+	4	6	21	7.1	53
ANNETTE	34			16.5	10.5	13.5	-0.8	22.2	27	7.2	7+	2	0			105	-32	26	18		0	0			8.0	14	17+	2	9	20	8.1	
BARROW	9	1020.0	1020.4	6.6	0.9	3.8	0.1	17.2	30	-1.1	23+	0	13	1.7	86	2	-20	2	3	0	T	T	5.5	7	11.2	8	10	12	9	10	5.2	
BARTER ISLAND	12	1017.3	1019.3	5.6	0.6	3.1	-1.3	15.6	28	-2.2	4	0	17	1.7	92	T	-28	T	0	0	T	0	4.6	7	13.0	8	13	2	17	12	7.0	
BETHEL	38	1008.1	1013.9	17.4	9.3	13.4	0.8	23.9	21	6.1	5	5	0	9.4	78	48	-2	12	20	0	0	0	0.9	22	11.2	29	1	0	9	22	8.5	
BETTLES	196	990.5	1014.4	23.8	11.3	17.6	3.2	32.2	31+	4.4	6	26	0	8.3	57	35	-11	12	9	4	0	0	0.9	4								
BIG DELTA	386			22.3	11.1	16.7	1.4	31.1	30	6.1	3+	19	0			49	-15	14	9		0	0										
COLD BAY	29	1009.5	1013.0	15.8	8.7	12.2	2.2	20.6	16	5.0	15	0	0	8.3	78	73	17	15	16	0	0	0	1.4	20	16.5	15	25+	0	6	25	8.8	
FAIRBANKS	133	996.3	1013.0	23.2	11.1	17.1	1.2	32.2	30	6.7	3	24	0	7.8	59	40	-8	11	11	5	0	0	1.0	1	12.1	11	8	6	13	12	5.9	
GULKANA	479			21.6	7.3	14.4	0.6	28.9	29	2.8	15+	17	0			31	-16	17	6		0	0										
HOMER	19	1011.5	1014.1	17.1	7.7	12.4		23.9	11	2.2	15	2	0	9.4	79	8	-35	4	6	0	0	0	1.1	22	9.4	11	30+	6	5	20	7.1	
JUNEAU	6	1015.6	1016.4	18.2	9.6	13.9	0.7	25.6	28	5.6	6	9	0	10.6	83	81	-38	27	16	0	0	0	0.9	8	8.9	15	22	0	7	24	8.8	37
KING SALMON	15	1011.2	1013.2	16.8	7.9	12.4	-0.1	22.8	1	2.2	5	2	0	8.3	78	41	-15	27	9	0	0	0	1.4	18	11.2	17	25	0	6	25	8.7	
KODIAK	4	1009.8	1014.2	15.6	9.2	12.4	0.2	25.0	18	3.3	14	6	0	8.9	83	153	63	60	18	0	0	0	1.8	4	10.3	12	26+	7	4	20	7.4	
KOTZEBUE	3	1012.9	1013.3	18.8	10.9	14.9	3.3	28.9	12	1.1	2	13	0	10.0	75	T	-39	T	1	0	0	0	0.9	26	16.1	28	1	4	19	8	6.2	
MC GRATH	105	1000.7	1013.1	23.4	9.6	16.5	1.9	31.7	30	6.1	23	25	0	9.4	66	23	-35	8	10	4	0	0	0.4	25	10.3	11	26	1	19	11	6.6	
NOME	4	1011.9	1012.7	18.4	8.6	13.5	3.4	30.0	31	1.1	3	8	0	7.8	69	8	-53	3	10	0	0	0	0.9	13	12.5	11	26	5	10	16	6.9	61
ST. PAUL ISLAND	7	1011.2	1012.2	11.4	7.2	9.3	1.7	17.2	19	1.7	17	0	0	7.8	90	22	-35	4	15	0	0	0	0.4	28	13.9	17	23	0	4	27	9.3	
TALKEETNA	105			22.5	8.9	15.7	1.3	28.9	29+	5.6	24+	21	0			27	-61	10	11	3	0	0			8.9	5	18					
UNALAKLEET	5			19.1	9.9	14.5		29.4	12+	5.0	4	11	0			8		4	7		0	0			9.8	15	27	1	6	24	8.6	
VALDEZ	11	1014.9	1016.0	17.8	8.6	13.2	1.3	23.3	16	4.4	7	7	0	8.9	79	57	-53	15	12	0	0	0	1.4	23	8.0	26	29	8	4	19	7.0	
YAKUTAT	9	1015.2	1016.2	16.2	9.7	12.9	1.1	22.2	28	3.9	7	1	0	11.1	87	133	-82	43	15	0	0	0	1.1	10	8.9	9	26	5	3	23	8.1	
ARIZONA																																
FLAGSTAFF	2135	792.4	1016.3	28.3	10.8	19.6	0.9	32.8	31	6.1	6	1	0	7.8	53	91	28	35	15	19	0	0	1.0	23	10.3	SW	9	8	12	11	5.9	60
PHOENIX	339	971.9	1009.7	41.2	28.8	35.0	2.1	44.4	28	25.6	5	31	0	15.0	32	8	-11	6	4	8	0	0	0.6	22	21.5Y	S	10	12	14	5	4.2	79
TUCSON	788	925.5	1010.7	36.9	24.2	30.6	0.4	40.0	8+	21.1	23	30	0	13.9	41	19	-41	9	11	15	0	0	1.3	18	19.2	NE	31	10	12	9	5.3	81
WINSLOW	1492	854.0	1013.8	34.0	17.6	25.8	0.1	38.3	31	11.1	6	22	0	10.6	47	52	22	22	11	10	0	0	1.4	19	13.9	14	21	5	14	12	6.4	
YUMA	59	1002.0	1009.1	41.6	27.9	34.7	0.4	43.9	28+	24.4	14+	31	0	15.0	34	2	-3	2	1	1	0	0	3.1	18	16.1	SE	30	20	7	4	2.8	95
ARKANSAS																																
FORT SMITH	136	1000.3	1016.4	33.8	22.4	28.1	0.2	38.3	25	19.4	27	25	0	21.1	71	66	-16	28	9	11	0	0	1.2	10	13.0	N	30	11	14	6	4.8	65
LITTLE ROCK	78	1007.5	1016.8	33.0	22.6	27.8	0.4	38.3	6	20.0	3	24	0	21.7	74	129	43	42	11	11	0	0	0.7	17	9.4	NW	25	9	11	11	5.8	87
CALIFORNIA																																
BAKERSFIELD	145	995.3	1012.6	37.6	22.1	29.8	1.0	41.7	31+	17.2	5	31	0	11.1	32	1	0	1	1	0	0	0	2.0	32	7.6	30	29	28	2	1	1.1	
BISHOP	1252	873.4		36.7	13.1	24.9	0.1	40.6	31+	8.9	5	31	0			T	-4	4	0		0	0			16.1Y		22	24	6	1	1.6	
BLUE CANYON	1609	840.8	1012.2	25.8	13.7	19.8	-0.3	33.9	31	6.7	5	2	0	1.1	31	2	-1	2	1		0	0	1.3	20	8.0	20	3					
EUREKA J	13			15.4	10.2	12.8	-0.7	18.3	31+	7.8	5	0	0			T	-4	T	0		0	0			9.8	N	9	9	13	9	5.6	69
FRESNO	100	1001.0	1012.6	36.8	18.2	27.5	0.5	41.1	31	13.9	5	30	0	10.6	36	T	0	T	0	0	0	0	2.7	29	8.0	32	24	27	3	1	1.0	99
LONG BEACH	8	1012.5	1014.0	29.1	17.8	23.4	1.1	38.3	26	15.0	6	6	0	15.6	69	0	0	0	0	0	0	0	1.7	23	8.9	28	26	22	6	3	3.0	
LOS ANGELES	30	1010.5	1014.0	24.1	16.6	20.3	0.1	30.6	27	15.0	15+	0	0	16.1	79	0	0	0	0	0	0	0	2.9	25	13.9Y	SW	2	15	12	4	3.7	
LOS ANGELES J	82			29.1	17.8	23.4	0.6	36.1	26	13.9	13	5	0			0	0	0	0		0	0			7.2	SW	6	7	21	3	4.6	
MT SHASTA R	1077	893.3	1015.4	29.6	9.8	19.7	-0.2	37.2	31	5.0	6	10	0	4.4	40	18	10	18	1		0	0	0.7	33								
OAKLAND	2	1015.9	1016.1	22.2	13.8	18.0	0.7	35.0	30	12.2	26	2	0	12.2	73	2	2	2	1	0	0	0	3.5	28	11.2	26	3	22	6	3	2.5	
RED BLUFF	104	1000.0	1012.3	37.4	19.2	28.3	0.4	45.0	30	16.1	5+	28	0	10.0	34	T	-1	T	0	1	0	0	1.7	17	8.9	N	29	29	0	2	1.1	98
SACRAMENTO	5	1011.9	1012.9	32.9	13.9	23.4	-0.6	41.1	30	10.6	5	21	0	10.0	51	T	0	T	0	0	0	0	3.3	18	9.4	SW	24+	27	3	1	1.1	97
SANDBERG R	1377			28.8	16.9	22.8	-0.5	33.3	29	10.6	5	6	0			0	-1	0	0		0	0			11.2	35	27+					
SAN DIEGO	4	1013.2	1014.2	24.9	19.1	22.0	1.1	30.6	26	16.1	6	0	0	16.1	73	T	0	T	0	0	0	0	2.1	27	8.0	NW	25+	17	9	5	4.5	75
SAN FRANCISCO	2	1014.9	1015.7	22.0	11.8	16.9	-0.1	36.1	30	10.0	16	2	0	8.9	65	9	9	9	1	0	0	0	5.2	29	13.4	28	8	22	5	4	2.2	
SAN FRANCISCO U	16			18.3	11.7	15.0	0.3	29.4	30	10.0	16	0	0			0	0	0	0													
SANTA MARIA	72			23.6	10.9	17.2	0.5	32.8	31	7.2	5	1	0			T	-1	T	0		0	0						20	10	1	2.6	
STOCKTON	7	1012.5	1013.7	35.7	16.8	26.2	1.4	42.8	30	12.8	5	26	0	10.0	42	T	0	T	1	0	0	0	3.8	30	10.3	29	23	28	2	1	1.0	
COLORADO																																
ALAMOSA	2297	777.9		27.3	9.6	18.5	0.2	30.6	17+	5.0	12	0	0			56	26	23	10		0	0						8	14	9	5.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths, sunrise to sunset	Possible sunshine
												No. of days							No. of days		Snow, ice pellets				Fastest mile (1.6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	815.1	1014.2	29.2	14.6	21.9	0.4	35.0	19+	10.0	1	10	0	8.9	50	77	-2	31	13	17	0	0	1.2	7	15.6	29	5	9	11	11	5.4	
DENVER	1610	838.8	1012.6	31.0	15.9	23.5	0.7	36.7	17	10.6	11	14	0	9.4	49	76	30	28	10	14	0	0	0.4	16	15.6	SW	9	9	14	8	5.4	75
GRAND JUNCTION	1476	853.7	1012.0	34.7	18.8	26.8	0.8	38.3	29	15.6	11+	26	0	6.7	33	23	11	10	9	8	0	0	0.8	15	14.8	S	17	12	12	7	4.7	75
PUEBLO	1428	857.1	1012.4	34.3	16.2	25.3	0.6	38.9	19+	10.6	10	24	0	12.2	51	75	28	50	9	10	0	0	0.7	15	23.2	NW	1	11	15	5	4.9	87
CONNECTICUT																																
BRIDGEPORT	2	1015.9	1016.6	27.5	17.6	22.6	-0.7	33.9	19	11.1	3	4	0	17.2	73	26	-61	7	7	4	0	0	1.7	25	11.2	31	26	9	13	9	5.3	
HARTFORD	52	1009.8	1016.0	30.4	16.7	23.6	1.0	38.3	21	9.4	28+	14	0	16.7	68	86	-1	39	10	2	0	0	1.0	24	14.8	NW	21	8	11	12	5.8	76
DELAWARE																																
WILMINGTON	23	1014.2	1017.3	30.2	19.1	24.7	0.3	36.1	21+	11.7	27	9	0	16.7	62	35	-74	15	7	6	0	0	1.3	26	11.2	31	21	11	10	10	5.4	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1005.8	1017.4	32.1	17.3	24.7	0.6	38.9	6	8.3	28	16	0	17.2	65	83	-22	28	11	6	0	0	0.5	26	12.5	32	21	11	10	10	5.3	
WASHINGTON NATIONAL	3	1015.2	1017.5	32.3	21.9	27.2	1.2	37.8	6	15.6	28	20	0	19.4	66	103	-2	41	11	8	0	0	0.8	23	15.6	NW	21	11	12	8	4.9	77
FLORIDA																																
APALACHICOLA U	6	1018.3	1018.7	32.1	22.7	27.4	-0.1	33.9	7+	20.6	26+	20	0	22.8	78	146	-58	95	10	17	0	0	1.1	19	12.5	SE	16	3	20	8	5.9	79
DAYTONA BEACH	9	1018.0	1019.3	33.2	23.1	28.1	0.9	35.6	22	20.0	2	30	0	23.3	78	57	-113	30	8	11	0	0	1.8	11	9.4	13	16+	6	17	8	5.6	
FORT MYERS	5	1018.3	1018.7	31.8	23.3	27.6	-0.5	33.3	28+	21.7	20	16	0	22.8	81	244	18	44	20	24	0	0	1.4	10	13.0	9	19	1	24	6	6.1	
JACKSONVILLE	8	1018.3	1019.2	34.5	21.8	28.2	0.9	37.8	22	17.8	25	30	0	21.7	73	50	-137	27	9	14	0	0	0.8	15	11.6	NE	22	7	14	10	5.8	61
KEY WEST	1	1017.3	1017.9	31.1	26.4	28.8	-0.4	32.2	23+	23.3	24	2	0	22.8	70	49	-56	18	13	12	0	0	3.7	12	8.9	13	19+	1	19	11	6.3	86
LAKELAND U	65			33.7	22.4	28.1	0.6	37.2	10	20.0	20+	25	0			236	30	108	16		0	0						3	23	5	5.6	55
MIAMI	2	1019.0	1019.1	31.4	26.0	28.7	0.8	33.3	10	22.8	24+	13	0	23.3	75	133	-43	40	13	6	0	0	2.6	10	13.0	31	23	2	19	10	6.5	79
ORLANDO/MC COY AFB	29	1015.2	1019.1	32.8	22.7	27.8	0.3	35.0	30+	20.6	2	22	0	22.2	80	168	-43	43	16	18	0	0	1.0	11	11.2	31	27	6	16	9	5.9	
PENSACOLA	34	1014.2	1018.6	32.3	23.2	27.8	0.1	36.1	14	21.1	3+	22	0	23.3	80	131	-56	42	11	16	0	0	1.2	17	10.7	15	16	3	21	7	5.9	
TALLAHASSEE	17	1016.6	1019.0	34.4	21.1	27.8	0.5	37.2	14+	18.9	25	29	0	22.8	80	81	-146	17	12	16	0	0	0.8	17	10.3	6	2	8	19	4	5.5	
TAMPA	6	1019.0	1019.1	32.7	23.8	28.3	0.6	34.4	29+	21.1	5	23	0	22.2	76	136	-78	28	13	24	0	0	0.5	10	10.7	3	14	3	18	10	6.5	55
WEST PALM BEACH	5	1018.3	1018.9	32.0	23.4	27.7	0.0	33.9	31	21.7	8+	18	0	23.3	79	56	-110	27	13	12	0	0	2.5	11	13.4	13	16	4	17	10	6.4	
GEORGIA																																
ATHENS	244	989.8	1018.1	33.9	21.4	27.7	1.5	40.0	8	18.3	29+	27	0	20.0	69	142	9	43	10	9	0	0	0.8	23	7.6	18	26+	7	16	8	5.5	
ATLANTA	308	982.1	1018.3	32.1	20.7	26.4	0.8	36.7	8	17.2	29+	20	0	20.0	71	108	-16	50	10	8	0	0	0.6	21	17.4	6	1	9	16	6	5.6	71
AUGUSTA	41	1012.9	1018.1	35.2	21.1	28.2	1.3	40.0	8	17.2	24	26	0	20.0	66	78	-51	27	9	10	0	0	1.1	18	15.6	36	22	10	15	6	5.3	
COLUMBUS	117	1004.4	1018.2	35.0	22.9	28.9	1.9	40.0	7	21.1	10+	28	0	21.7	73	96	-50	51	13	12	0	0	0.6	17	7.6	9	16	6	15	10	5.8	
MACON	108	1005.8	1018.6	35.0	21.8	28.4	1.0	38.9	22+	19.4	24	25	0	21.7	75	128	13	38	11	12	0	0	0.7	17	14.3	W	1	9	11	11	5.7	68
ROME	194			34.6	20.8	27.7	1.8	40.6	8	15.0	3	27	0			41	-79	13	8		0	0										
SAVANNAH	14	1017.3	1018.9	34.3	22.7	28.5	1.2	39.4	22	18.9	25	27	0	21.7	72	143	-57	37	12	13	0	0	0.9	20	17.0	E	7	6	13	12	6.2	60
HAWAII																																
HILO	8	1014.9	1016.2	29.2	20.8	25.1	1.0	31.7	2	18.9	23	0	0	20.6	80	162	-81	21	27	0	0	0	0.3	5	7.2	E	31+	1	8	22	8.2	37
HONOLULU	2	1015.6	1016.1	30.9	23.3	27.2	0.4	31.7	28+	20.6	1	0	0	18.9	64	4	-12	1	6	0	0	0	6.5	6	13.4	E	8	6	18	7	5.7	72
KAHULUI	15	1013.2	1015.5	29.7	21.4	25.6	-0.1	32.2	29	16.7	23	1	0			11	1	9	5	0	0	0	7.0	5	15.2	NE	6	10	13	8	5.2	77
LIHUE	31	1012.5	1017.6	28.6	23.2	25.9	0.1	29.4	27+	21.1	1	0	0	20.6	73	33	-14	6	16	0	0	0	6.5	7	10.7	NE	8	2	15	14	6.7	63
IDAHO																																
BOISE	865	915.0	1013.3	31.3	13.9	22.6	-1.0	37.8	21+	6.1	5	17	0	5.0	35	10	7	6	5	3	0	0	1.3	31	14.3	NW	9+	17	11	3	3.4	
LEWISTON	431			30.6	15.1	22.9	-0.1	38.3	23	6.7	5	14	0			10	-4	5	8		0	0			18.3Y		28					
POCATELLO	1358			30.3	12.8	21.6	-0.4	36.1	16	6.1	14	10	0			15	6	7	5	6	0	0			16.5	SW	1	14	10	7	4.1	78
ILLINOIS																																
CAIRO U	96			33.0	24.0	28.5	1.4	37.8	7	17.8	27	22	0			110	27	39	6	0	0	0			14.3	NE	31					73
CHICAGO O HARE	201	992.6	1016.5	30.9	19.6	25.3	3.1	36.7	15+	11.1	27	15	0	17.2	61	30	-58	7	8	9	0	0	1.7	23	11.2	21	3+	9	13	9	5.1	
CHICAGO MIDWAY	185	994.6	1016.9	31.1	20.6	25.8	2.1	37.2	15	12.8	27	12	0	17.8	63	36	-68	9	9	10	0	0	1.8	22	13.4	W	1	13	12	6	4.5	78
MOLINE	177	995.3	1016.5	31.4	19.2	25.3	1.7	36.7	15+	11.1	27	13	0	17.8	64	153	37	40	10	9	0	0	1.2	20	21.0	SE	10	15	8	8	4.3	66
PEORIA	199	993.6	1017.1	32.3	19.0	25.7	1.7	37.8	14+	10.0	27	15	0	18.3	67	87	-8	45	11	9	0	0	1.4	18	14.3	NW	30	11	12	8	4.7	76
ROCKFORD	221	990.5	1016.9	30.1	18.2	24.1	1.4	36.7	14	11.7	27+	9	0	17.8	68	120	12	83	11	10	0	0	1.4	21	11.2	22	15	15	9	7	4.4	
SPRINGFIELD	179	995.3	1017.1	32.7	19.9	26.3	1.8	36.1	15+	10.6	27	18	0	20.0	71	29	-67	11	6	10	0	0	1.6	18	14.3	N	31	14	9	8	4.5	76
INDIANA																																
EVANSVILLE	116	1003.7	1017.4	32.4	21.9	27.2	1.7	36.7	7	15.0	28+	17	0	21.1	71	123	27	50	8	6	0	0	0.5	22	11.2	E	10	7	15	9	5.6	72

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No of days			Average relative humidity	Precipitation			No of days		Snow Ice pellets		Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers) Speed	Fastest mile (1.6 kilometers) Direction	Fastest mile (1.6 kilometers) Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				°C	%	mm	mm	mm			mm	mm	m s		m/s							%
INDIANA																																
FORT WAYNE	241	988.2	1017.8	30.6	18.3	24.5	1.7	35.6	7+	10.0	27+	10	0	18.3	70	101	3	33	9	9	0	0	1.7	25	18.3	SW	7	9	12	10	5.3	84
INDIANAPOLIS	241	989.2	1017.8	31.4	19.6	25.6	1.7	35.0	19+	13.3	26	14	0	20.0	74	65	-28	47	7	5	0	0	1.0	23	15.2	W	16	10	15	6	6.9	78
SOUTH BEND	236	989.2	1016.8	30.4	18.6	24.6	2.2	35.6	15+	10.6	27	10	0	17.8	69	68	-25	28	7	5	0	0	1.7	24	11.6	28	1	9	12	10	5.3	
IOWA																																
BURLINGTON	211			32.8	19.8	26.3	2.2	37.8	14	12.8	26	19	0	20.0	70	30	-65	19	5	5	0	0	1.4	19	10.3	30	30+	16	8	7	4.3	
DES MOINES	286	981.7	1015.5	33.7	20.8	27.2	3.3	39.4	13+	14.4	26	20	0	17.8	59	67	-17	29	10	12	0	0	1.7	19	14.3	SW	15	14	9	8	4.5	80
DUBUQUE	322	978.7		29.5	17.6	23.6	1.5	36.1	14	10.0	2	7	0			165	55	107	10		0	0										
SIOUX CITY	334	975.6	1014.7	30.4	18.3	24.4	0.3	36.7	18	11.7	1	12	0	18.3	71	161	77	93	10	12	0	0	1.7	15	17.9	NE	24	14	9	8	4.5	77
WATERLOO	265	985.1	1016.2	29.8	17.2	23.5	0.9	37.8	14	10.0	27	10	0	16.7	67	100	-21	35	11	11	0	0	1.8	19	19.7	3	16	9	12	10	5.3	
KANSAS																																
CONCORDIA	448	962.4	1014.0	34.2	20.8	27.5	2.0	40.0	24	13.3	1	21	0	17.8	59	59	-25	21	8	10	0	0	3.4	16	14.8	S	19	15	8	8	4.4	83
DODGE CITY	787	925.2	1013.2	36.4	21.7	29.1	2.8	41.1	6	17.2	1	28	0	15.6	49	66	-12	32	8	8	0	0	3.8	17	16.1	S	4	12	12	7	4.5	82
GOODLAND	1114	889.3	1012.9	32.5	16.7	24.6	0.3	39.4	18	11.7	1	19	0	13.9	59	33	-36	22	6	7	0	0	3.1	17	15.6	28	5	14	12	5	4.2	
TOPEKA	267	984.4	1015.6	32.2	20.4	26.3	0.7	36.7	24	11.7	1	18	0	20.0	69	35	-72	25	4	4	0	0	2.8	15	12.5	NE	11	13	9	9	4.7	68
WICHITA	403	968.2	1014.8	35.2	22.1	28.7	1.6	39.4	24	15.6	1	24	0	18.3	57	101	-9	40	8	9	0	0	2.8	18	22.4	NW	21	15	10	6	4.0	79
KENTUCKY																																
COVINGTON	265	986.8	1017.9	30.9	20.0	25.5	1.3	34.4	20+	12.8	3+	15	0	20.0	74	48	-56	16	7	7	0	0	1.3	23	8.0	24	31+	7	11	13	6.2	
LEXINGTON	294	983.4	1018.3	31.0	20.5	25.8	1.2	34.4	8	14.4	27	14	0	20.0	73	117	-6	45	10	6	0	0	1.0	18	9.4	35	8	4	16	11	6.3	
LOUISVILLE	145	1000.3	1017.5	32.1	21.5	26.8	1.8	36.1	15	15.6	27	17	0	20.6	71	84	-12	33	13	9	0	0	0.8	20	13.9	E	13	4	15	12	6.3	62
LOUISIANA																																
ALEXANDRIA	28	1013.5	1017.7	35.5	22.5	29.0	1.8	38.9	23	19.4	6	30	0	22.8	76	88	-40	31	14	16	0	0	0.7	18								
BATON ROUGE	20	1015.6	1018.3	33.8	23.2	28.5	0.7	36.7	3	21.1	6	28	0	21.7	72	161	-4	60	12	17	0	0	0.2	23	8.9	17	3	4	19	8	5.9	
LAKE CHARLES	3	1016.6	1017.5	32.5	23.1	27.8	-0.2	34.4	26+	21.1	16+	24	0	23.3	82	81	-85	41	11	17	0	0	1.1	18	9.4	33	26+	2	18	11	6.3	
NEW ORLEANS	1	1016.9	1017.8	34.1	23.6	28.8	1.1	36.1	1	21.7	3	30	0	23.9	80	74	-97	20	14	13	0	0	0.4	20	11.6	3	2	6	14	11	6.1	61
SHREVEPORT	77	1008.1	1017.1	35.3	21.9	28.6	0.2	37.2	17+	18.3	19	30	0	22.2	76	99	25	40	9	13	0	0	1.3	19	9.4	12	15+	6	16	9	5.6	67
MAINE																																
CARIBOU	190	989.8		24.9	11.9	18.4	0.2	32.8	17	6.7	28	1	0			44	-57	11	11		0	0						5	14	12	6.5	
PORTLAND	13	1012.9	1015.1	26.4	13.8	20.1	0.1	37.2	21	6.7	27	3	0	14.4	73	72	6	29	7	3	0	0	1.6	25	15.6	NW	22	10	13	8	5.4	75
MARYLAND																																
BALTIMORE	45	1011.9	1017.5	32.2	19.9	26.1	1.3	37.8	17	12.8	28	18	0	18.3	66	67	-37	19	11	5	0	0	1.1	26	17.0	NW	21	10	17	4	4.8	69
MASSACHUSETTS																																
BLUE HILL OBS R	192			27.6	16.3	21.9	0.2	37.8	21	10.6	27+	6	0			57	-18	37	8		0	0			21.5	WNW	21					68
BOSTON	5	1015.2	1016.2	28.9	18.7	23.8	0.9	38.9	21	13.9	27	9	0	16.1	65	56	-13	30	7	4	0	0	2.2	26	20.6	N	18	14	8	9	5.1	77
WORCESTER	301	979.7		25.9	15.5	20.7	-0.4	33.3	21	9.4	27	2	0			98	6	40	11	5	0	0	2.4	28	13.4	33	21	9	10	12	5.9	
MICHIGAN																																
ALPENA	210	990.9	1015.8	26.4	12.7	19.6	0.9	36.7	20	5.0	27	1	0	14.4	73	86	22	42	12	8	0	0	1.1	24	9.8	NW	25+	6	14	11	6.1	68
DETROIT	189			30.2	19.8	25.0	2.1	37.8	15	13.3	27	8	0	16.1	57					7			1.7	24	14.3	23	1					
DETROIT METRO	193	992.9	1016.4	31.1	17.5	24.3	1.9	38.9	15	10.0	26+	14	0	16.7	64	83	5	39	10	7	0	0	1.5	25	25.0	W	19	8	11	12	5.7	78
FLINT	235	988.8	1016.1	29.1	17.3	23.2	2.3	37.2	15	7.2	27	7	0	15.0	63	49	-27	17	8	3	0	0	1.8	23	16.5	30	4	6	14	11	6.0	
GRAND RAPIDS	239	988.2	1016.7	29.4	17.2	23.3	1.4	34.4	15	8.3	27	8	0	17.2	72	131	53	52	10	6	0	0	2.2	23	17.4	W	1	11	11	9	5.4	74
HOUGHTON LAKE	350	974.9	1016.3	28.0	14.3	21.2	2.2	35.6	19	2.8	27	7	0	14.4	68	44	-34	13	13	12	0	0	1.7	26	13.0	28	1	5	16	10	6.0	
LANSING	256	985.4	1016.5	29.9	16.3	23.1	1.5	37.2	15	5.6	27	8	0	17.8	72	51	-21	15	13	8	0	0	1.9	25	19.2	W	1	9	11	11	5.7	76
MARQUETTE U	206			24.7	14.5	19.6	0.6	40.0	19	7.2	10	2	0			99	21	65	10		0	0			13.0	SW	14					72
MUSKEGON	191	993.9	1016.5	27.3	17.3	22.3	1.2	33.3	14	7.8	27	1	0	17.2	74	61	-3	23	11	9	0	0	2.3	22	15.6	28	6	11	12	8	4.9	
SAULT STE MARIE	220	988.8	1015.1	23.7	10.6	17.1	-0.6	32.8	20	4.4	27	1	0	14.4	86	124	58	42	12	8	0	0	0.8	27	13.0	NW	1	6	9	16	6.7	54
MINNESOTA																																
DULUTH	435	964.1	1015.0	24.6	13.0	18.8	0.2	31.7	19	8.3	9	0	0	13.3	73	99	5	32	9	5	0	0	0.5	20	13.0	W	31	4	16	11	6.7	58
INTERNATIONAL FALLS	359	970.9	1013.6	25.9	12.5	19.2	0.4	34.4	19	6.7	9	3	0	14.4	76	55	-46	15	15	10	0	0	0.9	23	9.4	31	1	2	19	10	6.6	
MINNEAPOLIS	254	985.1	1014.9	29.4	18.2	23.8	1.6	37.8	19	12.2	2	9	0	16.7	66	94	1	34	11	11	0	0	1.3	20	12.5	NW	1	10	11	10	5.8	70
ROCHESTER	395	968.8	1015.8	28.8	16.7	22.8	1.6	35.6	14	11.1	13	8	0	15.6	66	59	-36	24	8	10	0	0	2.2	21	13.4	20	28+	6	15	10	5.9	
ST CLOUD	313	978.3	1015.2	28.3	14.9	21.6	0.4	36.7	19	7.8	9	6	0			108	26	37	9		0	0						10	9	12	5.8	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station ☉	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1006.4	1017.9	33.4	22.9	28.2	0.6	36.7	8	20.6	3	24	0	22.2	77	158	50	47	18	25	0	0	0.8	19	14.3	15	8	4	14	13	6.7	64
MERIDIAN	88	1007.5	1018.2	34.7	22.7	28.7	1.4	38.9	4	20.6	13+	27	0	21.7	74	257	127	42	20	19	0	0	0.8	22	11.2	10	6	3	14	14	6.7	
MISSOURI																																
COLUMBIA REGIONAL	270	985.1	1016.8	31.9	20.6	26.3	1.1	35.6	24	13.3	27	18	0	20.0	72	41	-58	26	5	5	0	0	1.7	18	16.5	NW	25	15	9	7	4.4	77
KANSAS CITY	309	979.7	1015.7	31.8	21.2	26.5	0.5	35.6	6	13.9	1	16	0	20.0	71	70	-41	33	6	7	0	0	2.4	16	15.6	NE	21	14	9	8	4.3	70
ST JOSEPH	247			32.8	21.2	27.1	1.4	37.2	6	11.1	1	20	0			53	-44	36	5		0	0										
ST LOUIS	163	997.3	1017.3	32.8	21.8	27.3	1.4	36.7	7+	13.9	27+	19	0	21.1	72	109	15	39	7	8	0	0	1.4	21	15.2	NW	25	13	15	3	4.0	85
SPRINGFIELD	386	972.9	1017.1	32.3	21.2	26.8	1.3	36.7	18	17.2	2+	22	0	21.1	75	38	-54	17	5	4	0	0	2.1	17	10.3	N	11	14	6	11	4.9	68
MONTANA																																
BILLINGS	1087	891.6	1012.9	30.7	14.4	22.6	0.4	38.3	17	10.0	11+	12	0	7.8	45	20	-2	12	9	5	0	0	1.1	34	17.9	NW	10	10	15	6	4.9	70
GLASGOW	696	933.0	1013.4	28.6	12.6	20.6	-0.8	35.6	22	5.0	14	10	0	8.3	50	20	-17	12	8	3	0	0	0.8	31	14.3	31	30	5	16	10	5.9	
GREAT FALLS	1116	889.6	1014.4	28.2	11.8	20.0	-0.7	35.0	16	7.2	13+	7	0	5.0	42	47	15	32	10	5	0	0	2.4	25	18.3	SW	9	3	16	12	6.4	68
HAVRE	788			30.1	12.3	21.2	0.2	38.3	21	3.9	20	12	0			11	-24	5	6	0	0	0			18.8	NW	29	5	17	9	5.8	71
HELENA	1167	882.8	1015.9	27.6	10.6	19.1	-0.9	33.9	16	5.0	7	6	0	5.0	44	35	10	19	11	7	0	0	1.8	30	20.1	SW	20	8	13	10	5.7	60
KALISPELL	904	913.0	1016.3	25.7	9.3	17.5	-0.4	33.9	23	2.8	7	4	0	6.7	54	65	39	31	9	5	0	0	0.9	20	10.3	4	24	6	10	15	6.6	
MILES CITY	801	921.4	1012.4	31.2	15.9	23.6	0.0	40.0	17	8.9	14	15	0	9.4	45	49	9		8	7	0		1.3	36								
MISSOULA	972	905.9	1016.2	27.5	10.1	18.8	-0.4	35.0	16	2.2	7	7	0	6.7	50	18	-5	7	11	3	0	0	1.3	29	13.4	NE	10	8	11	12	5.8	62
NEBRASKA																																
GRAND ISLAND	561	949.5	1014.1	32.7	19.3	26.1	1.4	38.9	5	11.1	1	18	0	16.7	60	44	-32	20	6	8	0	0	2.8	16	13.4	33	7	14	10	7	4.5	
LINCOLN	359	972.9	1014.3	34.0	20.3	27.2	2.0	38.9	3	10.6	1	23	0	17.2	57	95	13	75	5	10	0	0	2.5	17	21.5	N	11	13	11	7	4.2	79
NORFOLK	471	959.7	1013.8	31.9	19.3	25.6	1.4	37.8	18	12.8	1	15	0	16.7	60	83	2	58	6	9	0	0	2.4	18	20.6	28	10	14	13	4	4.2	
NORTH PLATTE	846	918.4	1013.8	30.8	16.4	23.6	0.1	37.2	18+	7.8	1	12	0	15.0	62	112	36	67	10	9	0	0	2.1	14	19.2	N	9	9	14	8	5.3	70
OMAHA	401			32.1	19.8	25.9	2.0	37.8	6+	12.2	1	14	0	19.4	66	185	91	94	6	3	0	0	1.3	17	15.2	NW	11	12	13	6	4.4	86
SCOTTSBLUFF	1206	880.8	1013.1	32.4	16.8	24.6	1.4	39.4	17	11.1	11	19	0	11.7	50	31	-14	13	6	7	0	0	1.0	8	14.3	23	27	12	12	7	5.1	
VALENTINE	789	922.8		31.4	15.9	23.7	0.3	40.6	18	6.7	1	12	0	13.9	58	155	92	70	9		0	0	1.2	17	18.8	SE	9	12	13	6	4.9	77
NEVADA																																
ELKO	1539	846.3	1013.1	32.8	11.3	22.1	1.2	37.2	16	6.7	30	21	0	0.6	28	6	-5	5	2	4	0	0	0.8	25	11.2	2	23+	17	11	3	3.1	
ELY	1906	812.1	1012.7	30.2	8.9	19.6	0.0	33.9	29+	3.3	11	9	0	1.1	34	12	-3	8	6	8	0	0	3.1	21	15.2	SE	19+	17	9	5	3.4	86
LAS VEGAS	659	935.7	1009.6	41.4	25.7	33.6	1.6	46.1	31	20.6	6	31	0	2.2	16	T	-11	T	0	3	0	0	3.5	20	22.4	SE	24	19	9	3	3.1	86
RENO	1342	867.3	1013.8	32.9	8.7	20.8	0.1	37.2	16	1.7	6	23	0	1.7	30	2	-5	1	2	3	0	0	1.6	27	12.5	NW	19+	21	9	1	1.8	96
WINNEMUCCA	1311	869.3	1012.8	34.3	11.2	22.8	1.1	37.2	31+	5.6	5	25	0	2.2	27	7	1	5	3	2	0	0	1.3	28	14.3	W	1	22	6	3	2.2	92
NEW HAMPSHIRE																																
CONCORD	104	1003.4	1015.9	28.6	12.4	20.6	-0.4	38.3	21+	2.8	27	8	0	13.3	64	32	-48	18	4	2	0	0	1.3	27	13.9	W	21	12	7	12	5.5	71
MT WASHINGTON OBS	1909			11.8	5.2	8.6	-0.8	20.6	20	-0.6	27+	0	5			101	-71	21	14	2	T	0			41.6	NW	6+	3	6	22	8.3	31
NEW JERSEY																																
ATLANTIC CITY	20	1014.9	1017.2	29.7	18.4	24.1	0.1	35.6	19	10.0	28	8	0	17.2	69	71	-40	25	9	5	0	0	1.0	22	10.3	23	25+	12	8	11	5.5	64
ATLANTIC CITY U	3			27.3	20.7	24.1	0.6	33.9	19	15.6	27	1	0			55	-50	20	7						13.4	SSW	25					
NEWARK	2	1015.6	1016.7	30.5	20.8	25.7	1.0	38.9	21	13.9	27	14	0	16.1	58	38	-64	16	7	2	0	0	1.3	26	8.9	18	24+	5	18	8	5.9	
TRENTON U	17			30.1	19.9	25.0	0.6	37.2	21	13.9	28+	9	0			78	-42	50	7		0	0			11.6	N	22+	10	12	9	5.5	65
NEW MEXICO																																
ALBUQUERQUE	1619	841.2	1013.1	33.3	18.4	25.9	-0.1	37.2	31	15.0	9	23	0	10.0	42	18	-18	7	6	9	0	0	0.6	20	18.8	SE	3	12	15	4	4.7	81
CLAYTON	1515			32.0	16.6	24.3	1.2	36.7	10	12.8	1	15	0			35	-35	30	7		0	0										
ROSWELL	1112	891.3	1011.8	36.3	21.6	29.0	2.8	39.4	31+	18.3	9	30	0	13.3	41	12	-32	11	2	6	0	0	2.6	14	18.8	NE	21	16	14	1	3.8	88
NEW YORK																																
ALBANY	84	1005.8	1016.3	28.7	15.4	22.1	-0.2	35.6	21+	7.8	28	7	0	15.6	69	59	-21	22	9	4	0	0	1.0	22	14.3	NW	19	3	16	12	6.4	59
BINGHAMTON	485	960.4	1018.3	26.0	16.2	21.1	0.5	31.7	21+	9.4	28	0	0	15.6	73	83	-14	30	12	8	0	0	1.9	26	11.6	NW	21+	4	16	11	6.1	57
BUFFALO	215	991.2	1016.6	27.1	17.4	22.2	1.1	32.8	18	8.9	27	2	0	16.1	70	92	18	21	16	7	0	0	3.0	23	17.4	W	31	4	10	17	6.8	62
NEW YORK U	40			31.2	20.9	26.1	1.3	40.0	21	14.4	27	11	0			41	-53	18	7	2	0	0			7.6	SSW	24+					
NEW YORK KENNEDY	4	1016.3	1016.9	28.1	19.8	23.9	0.0	35.0	19	13.9	28	6	0	17.8	73	58	-44	27	6	4	0	0	1.6	22	11.2	20	24	9	16	6	5.2	
NEW YORK LA GUARDIA	3	1015.9	1016.9	29.7	20.5	25.1	0.3	37.2	21+	15.6	27	9	0	16.7	62	39	-59	19	7	2	0	0	1.0	23	11.2	N	16	12	10	9	5.3	
ROCHESTER	167	996.6	1016.5	28.6	16.9	22.7	0.9	35.0	20	7.2	27	6	0	17.2	74	83	9	27	11	8	0	0	2.4	25	17.0	SW	1	3	14	14	6.5	68

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	1001,7	1016,6	27,8	15,3	21,6	-0,4	34,4	20	7,8	28	5	0	16,1	73	121	43	46	14	7	0	0	1,4	25	15,6	W	19	4	15	12	6,6	52
NORTH CAROLINA																																
ASHEVILLE	652	944,8	1019,7	30,4	18,1	24,3	1,2	34,4	20+	15,6	31+	16	0	18,9	77	26	-98	15	6	8	0	0	0,8	34	7,6	12	11	10	16	5	5,2	63
CAPE HATTERAS R	2	1018,0	1018,4	30,7	23,5	27,1	1,6	34,4	21+	18,9	5	8	0	22,2	75	63	-87	24	7	9	0	0	1,4	23	8,9	24	8	9	13	9	5,5	62
CHARLOTTE	224	991,5	1018,4	34,1	21,8	28,0	2,2	37,8	21+	17,2	24	24	0	18,9	61	21	-95	9	5	4	0	0	0,4	20	18,3	SW	21	10	13	8	5,0	77
GREENSBORO	273	987,5	1018,5	33,7	20,1	26,9	1,8	38,9	8	13,3	28	21	0	18,3	63	39	-73	28	5	7	0	0	0,5	25	13,4	W	9	7	17	7	4,9	75
RALEIGH	132	1002,4	1018,0	34,2	19,7	27,0	1,7	39,4	8	12,8	28	24	0	19,4	69	23	-106	8	5	9	0	0	0,6	21	11,2	22	9	10	18	3	4,7	67
WILMINGTON	9	1017,3	1018,8	33,6	22,6	28,1	1,2	38,9	9+	17,8	24	23	0	22,8	76	83	-129	42	9	6	0	0	0,9	20	11,2	NW	13	13	9	9	4,9	66
NORTH DAKOTA																																
BISMARCK	502	954,6	1013,4	29,0	13,4	21,2	-0,3	39,4	17	7,2	1	6	0	11,7	57	35	-21	17	8	10	0	0	0,2	21	20,1	NW	30	10	15	6	5,4	70
FARGO	273	980,7	1012,9	28,7	16,0	22,3	0,8	36,1	19+	9,4	9	6	0	14,4	63	136	56	78	10	13	0	0	0,7	20	16,5	SE	13	5	21	5	5,8	67
WILLISTON	579	945,8	1013,0	29,4	14,1	21,7	0,6	37,2	17	8,3	12+	6	0	10,6	53	33	-19	13	8	8	0	0	0,5	28	15,6	NW	30	6	19	6	5,5	74
OHIO																																
AKRON	368	974,3	1018,1	29,5	18,0	23,8	1,7	37,8	16	10,0	27	9	0	17,2	70	121	24	38	11	12	0	0	1,6	25	11,2	35	7	7	14	10	5,8	
CINCINNATI ABBE OB	232			31,5	20,9	26,2	1,7	35,6	5	14,4	28	17	0			47	-54	15	6						11,6	S	11					80
CLEVELAND	237	989,2	1017,9	28,6	17,0	22,8	0,9	34,4	15	10,6	27	7	0	17,8	74	100	12	42	14	9	0	0	1,8	24	11,2	25	1	6	13	12	5,8	82
COLUMBUS	247	988,5	1018,0	30,3	18,7	24,6	1,4	35,6	6	11,1	27	10	0	17,8	67	64	-43	23	12	10	0	0	1,1	22	19,7	SW	16	6	16	9	5,9	52
DAYTON	303	982,4	1017,7	31,7	18,8	25,3	1,6	36,7	15	11,1	27+	15	0	18,3	66	44	-46	26	4	7	0	0	1,3	25	13,0	NW	7	6	15	10	5,9	72
MANSFIELD	395			28,7	18,1	23,4	0,3	35,0	19+	8,9	27	9	0	17,8	73	125	31	55	11	10	0	0	1,9	23	12,5	24	1	8	14	9	5,7	
TOLEDO	204	992,6	1017,1	30,6	16,7	23,7	1,3	38,3	15	7,8	27	10	0	17,8	72	46	-36	20	6	9	0	0	1,7	24	14,8	SW	1	9	13	9	5,5	70
YOUNGSTOWN	359	976,0	1017,9	28,2	16,6	22,4	0,9	33,9	6	8,3	27	5	0	17,2	74	145	46	45	13	10	0	0	1,7	25	13,9	27	7	6	14	11	6,0	
OKLAHOMA																																
OKLAHOMA CITY	392	970,2	1015,3	34,8	21,8	28,3	0,8	41,1	25	19,4	4	28	0	19,4	63	104	37	48	5	6	0	0	2,9	17	12,5	NE	30	18	8	5	3,5	81
TULSA	198	991,5	1015,2	35,1	23,5	29,3	1,5	41,7	25	18,9	27	26	0	21,1	65	51	-38	23	7	5	0	0	2,8	17	13,4	N	30+	19	8	4	3,7	79
OREGON																																
ASTORIA	2	1020,0	1020,7	19,5	10,1	14,8	-0,7	26,1	30	5,6	19	0	0	11,1	81	11	-13	3	13	1	0	0	2,1	27	8,9	29	31	6	8	17	7,1	
BURNS J	1265			28,3	10,8	19,6	-0,7	33,9	16	3,3	6	7	0			13	5	13	1		0	0			20,1Y	S	23	18	11	2	3,1	
EUGENE	109	1005,4	1019,0	26,8	9,0	17,9	-1,5	34,4	31	4,4	6	3	0	9,4	62	3	-4	3	1	0	0	0	1,5	34	8,9	23	24+	14	8	9	5,2	
MEDFORD	396	969,2	1016,2	32,3	12,1	22,2	0,2	40,6	31	5,6	5	18	0	7,8	45	6	-1	6	1	1	0	0	2,0	33	8,9	29	27+	25	5	1	1,8	
PENDLETON	452	963,1		29,3	13,2	21,3	-1,8	37,8	27	8,3	7+	11	0			2	-5	2	2	0	0	0			20,1Y	W	28	16	8	7	4,2	
PORTLAND	6	1018,0	1019,2	25,4	12,7	19,1	-0,4	33,9	24	7,8	6	2	0	10,6	61	10	-2	6	4	1	0	0	2,9	34	9,8	N	1	7	10	14	6,1	58
SALEM	60	1011,5	1019,0	26,4	9,7	18,1	-1,2	35,0	31	5,0	6	3	0	10,0	63	7	-2	6	3	2	0	0	1,0	31	7,6	26	7+	13	8	10	5,2	
SEXTON SUMMIT R	1169	886,9	1016,8	24,0	9,7	16,9	-0,7	31,1	31	3,9	5+	0	0			6	-3	5	2		0	0	4,1	36	13,0	20	1					
PACIFIC AREA																																
GUAM TAGUAC R	110			30,4	22,9	26,7	0,3	31,1	31+	21,1	3	0	0			184	-59	50	27		0	0			10,7	E	14	0	13	18	8,2	58
JOHNSTON	2	1012,5	1013,0	28,9	24,8	26,9	-0,2	30,0	31	22,8	18+	0	0	22,8	77	18	-9	5	14	0	0	0	8,0	10	13,9	E	29+	7	17	7	5,8	86
KOROR R	29	1004,4		30,3	24,2	27,3	0,0	32,2	25+	22,8	31+	2	0			526	115	105	24	2	0	0	1,3	25	10,3	SW	27	0	1	30	9,6	31
KWAJALEIN	2	1007,8		30,2	25,1	27,7	-0,2	31,1	30+	23,3	25+	0	0			330	84	75	21	3	0	0	4,9	8	14,3	12	10	1	14	16	7,6	
MAJURO	3	1008,1		30,1	24,3	27,2	-0,1	31,1	31+	22,8	10	0	0			276	-70	58	26		0	0	4,0	7	13,0	E	5	0	8	23	8,5	57
PAGO PAGO	4	1011,2	1011,3	28,2	24,2	26,2	0,4	30,6	14	17,8	27	0	0	21,7	77	74	-102	29	14	1	0	0	5,9	12	11,6	E	18+	1	12	18	7,6	53
PONAPE R	37			31,4	23,2	27,3	0,7	32,8	19	22,2	17+	12	0			431	-22	98	29	2	0	0			9,4	E	24	1	7	23	8,4	40
TRUK MOEN ISLAND	2	1008,1		31,0	24,2	27,6	0,6	32,2	21+	22,8	25+	3	0			231	-160	51	25	0	0	0	2,3	9	10,7	NE	13	0	0	31	9,8	40
WAKE	3	1012,5	1012,9	31,8	24,7	28,2	0,4	32,8	27	22,8	22+	12	0	23,3	78	61	-52	17	18	0	0	0	6,3	8	11,2	E	22+	17	10	4	4,1	85
YAP R	13	1006,1		30,3	23,1	26,7	-0,6	32,2	11	21,1	15	1	0			437	65	103	27	1	0	0	0,3	18	8,5	SW	30+	0	2	29	9,4	23
PENNSYLVANIA																																
ALLENTOWN	118	1003,7	1017,5	30,1	18,2	24,2	0,8	35,6	21+	11,1	3	10	0	16,7	66	110	-1	41	9	8	0	0	1,3	27	9,8	29	2	9	12	10	5,6	
ERIE	223	991,2	1017,6	26,1	16,4	21,3	0,9	32,2	15	8,9	27	1	0	17,8	82	169	80	50	12	9	0	0	1,9	24	11,2	27	31	8	11	12	5,7	
HARRISBURG	103	1004,7	1017,4	30,0	18,7	24,4	-0,1	35,0	19+	11,7	28+	10	0	17,8	70	76	-18	22	11	9	0	0	1,1	28	12,5	NW	17	7	16	8	5,6	76
PHILADELPHIA	2	1016,3	1017,3	31,1	19,8	25,4	0,6	37,8	21	13,3	27	12	0	18,3	68	37	-67	15	7	3	0	0	1,3	26	11,6	SW	12	9	12	10	5,4	65
PITTSBURGH	347	975,3	1018,4	28,1	16,1	22,1	-0,1	32,8	20+	6,7	27	3	0	16,1	70	86	-12	21	14	11	0	0	1,5	26	13,4	32	7	4	18	9	5,6	47
SCRANTON	283	983,7	1017,5	27,3	16,1	21,7	-0,6	32,8	21+	8,3	27+	4	0	16,7	75	87	-17	18	10	7	0	0	1,2	24	14,3	NW	21+	6	17	8	6,1	61
WILLIAMSPORT	160	998,6	1017,4	29,1	17,4	23,2	0,5	33,3	21+	9,4	28+	9	0	17,8	75	91	-15	22	11	8	0	0	0,9	30	14,3	28	19	6	15	10	5,9	
RHODE ISLAND																																
BLOCK ISLAND	34			25,3	18,2	21,7	0,9	31,1	19	14,4	28+	0	0			46	-23	20	6		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No of days				Precipitation			No of days		Snow, ice pellets		Wind		Fastest mile (1.6 kilometers)			No of days (sunrise to sunset)				
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths, sunrise to sunset	Possible sunshine
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1014,2	1016,4	29.1	17,9	23,5	1.2	37,8	21+	11,7	28	7	0	16,7	67	52	-21	37	6	2	0	0	1,8	24	10,3	22	25+	9	14	8	5,6	73
SOUTH CAROLINA																																
CHARLESTON	12	1017,3	1019,1	34.2	23,3	28,8	2.0	38,3	22+	19,4	24	26	0	22.2	72	98	-110	40	8	11	0	0	1,6	19	12,1	28	1	9	13	9	5,6	86
CHARLESTON J	3			33.7	25,1	29,4	1.9	39,4	22	22,2	28+	23	0			71	-122	28	7		0	0										
COLUMBIA	65	1010,2	1018,2	35.3	20,8	28,1	0.7	40,6	8	15,0	24	28	0	18,9	64	14	-129	11	3	7	0	0	0,8	20	10,3	1	22	8	17	6	5,5	76
GRNVLLE-SPRTNBRG	292	984,4	1018,2	33.6	21,8	27,7	2,0	38,3	21	17,2	24	23	0	18,9	63	20	-86	11	7	2	0	0	0,2	22	9,4	W	1	10	15	6	4,8	67
SOUTH DAKOTA																																
ABERDEEN	395	967,5	1013,3	31.1	15,7	23,4	1.3	40,6	18	10.0	1	13	0	14,4	63	55	-15	22	15	12	0	0	0,4	14	13,0	16	13+	9	16	6	5,1	
HURON	390	967,2	1012,4	32.6	17,1	24,8	1.7	40,6	18	10.6	8+	16	0	15,0	59	38	-19	8	10	11	0	0	1,2	15	17,9	NW	28	12	12	7	5,1	76
RAPID CITY	964	905,5	1013,8	30.7	15,2	23,0	0.4	40,6	18	7,2	1	10	0	12,2	54	76	22	24	9	8	0	0	0,5	1	25,0	SW	4	6	19	6	5,4	74
SIOUX FALLS	432	964,1	1014,4	31.4	18,6	25,0	2.1	38,3	5+	10.0	1	12	0	15,6	58	92	18	31	9	11	0	0	2,0	16	19,7	25	10	13	10	8	4,8	
TENNESSEE																																
BRISTOL	459	966,1	1019,3	30.9	18,8	24.9	0.9	35,0	20+	14,4	27	15	0	18,9	72	54	-72	24	6	6	0	0	0,3	24	7,2	34	1	7	16	8	5,7	
CHATTANOOGA	203	993,9	1018,0	34.8	22,3	28,6	2.6	40,0	8	17,8	3	28	0	21.1	69	26	-105	11	7	8	0	0	0,4	19	8,9	36	1	9	14	8	5.1	60
KNOXVILLE	299	984,1	1018,4	32.3	21,3	26,8	1.2	36,1	15	17,8	3	18	0	21.1	74	27	-92	9	6	6	0	0	0,5	28	7,2	25	25+	8	16	7	5,3	78
MEMPHIS	79	1007,9	1017,4	34.1	24,4	29,3	1.7	37,8	15	21,1	3	27	0	22,8	72	87	-3	49	10	11	0	0	1,1	19	13,0	10	25	9	9	13	6.1	67
NASHVILLE	180	996,3	1017,6	33.5	22,3	27,9	1.4	37,2	17+	17,2	27	23	0	21.1	71	29	-68	15	6	11	0	0	0,8	19	10,3	30	31+	7	14	10	5,9	63
OAK RIDGE R	276			31.2	19,1	25,2	0.2	35,0	16+	14,4	3	15	0			104	-40	35	6		0	0			8,9Y		10	16	9	6	4,5	
TEXAS																																
ABILENE	544	953,6	1014,7	35.4	22,2	28,8	-0.1	37,8	31+	19,4	4	31	0	16.1	49	46	-13	21	3	6	0	0	4,2	17	13,9	NW	29	18	10	3	3,4	90
AMARILLO	1098	893.3	1013,4	33.8	20,3	27.1	1.1	37,2	11	17,2	9	26	0	15.0	50	80	5	41	6	11	0	0	4,4	19	14,8	19	26	16	12	3	3,6	78
AUSTIN	182	994,9	1016,6	35.4	23,6	29,5	0.3	38,3	31	21,7	16	31	0	20.6	63	5	-42	5	2	0	0	0	3,3	18	13,0	E	17	13	17	1	3,9	87
BROWNSVILLE	6	1015,6	1016,0	34.4	24,0	29,2	0.1	36,1	31+	21,7	9	31	0	22,5	71	7	-23	3	3	2	0	0	4,2	15	11,2	SE	10	13	17	1	4,1	86
CORPUS CHRISTI	12	1014,6	1016,3	34.3	24,1	29,2	-0.1	36,7	31+	22,2	25+	30	0	23,9	76	29	-19	9	5	0	0	0	4,2	14	12,5	15	11	11	17	3	4,5	85
DALLAS - FORT WORTH	168	994,6	1015,3	37.8	23,4	30,6	1.3	42,2	24	21,7	28+	31	0	20.0	56	56	9	29	6	6	0	0	3,0	19	13,0	33	9	19	7	5	3,7	
DEL RIO	313	978,3	1013,7	36.4	23,3	29,9	-0.5	39,4	31	21.1	10+	30	0	18,3	54	2	-24	1	2	1	0	0	4,9	12	9,4	10	21+	15	9	7	4,2	
EL PASO	1194	883,2	1011,5	36.1	19,6	27,9	-0.1	40,0	11	16.1	25	30	0	12,8	44	28	-11	6	11	16	0	0	1,1	16	15,6	15	12	8	17	6	5.0	76
GALVESTON	2			30.2	26,1	28,2	-0.3	32,8	23	23,9	16	2	0			17	-95	8	8		0	0			8,0	SW	31+					68
HOUSTON INTERCON	29	1013,5	1017.1	34.3	21,6	28,0	-0.5	36,7	31+	18,9	3	30	0	21.7	72	68	-36	17	10	12	0	0	1,7	17	14,8	11	15	8	20	3	4.9	78
LUBBOCK	992	905,9	1014,0	33.4	20,3	26,8	0.3	37,2	11	17,8	23+	28	0	15,0	52	29	-28	23	2	5	0	0	3,6	17	10,3	17	27	20	7	4	2.9	92
MIDLAND	869	917,4	1013,0	36.3	21,0	28,7	0.7	39,4	31	19,4	15+	31	0	14,4	45	10	-36	7	4	7	0	0	4,6	15	13,9	9	29	18	12	1	3,3	
PORT ARTHUR	5	1016,9		34.6	24,3	29.4	1.1	36,7	23	21,7	16	30	0	23,3	75	54	-96	13	11	14	0	0	1,4	18	13,4	E	15	4	21	6	5,6	75
SAN ANGELO	580	949,5	1014,2	35.9	22,7	29,3	0.1	38,9	31	20,0	18	31	0	16,7	50	13	-18	8	3	2	0	0	3,1	14	11,2	35	8	14	13	4	3,9	
SAN ANTONIO	240	988,2	1015,7	34.2	24,5	29.4	0.1	36,7	31	21,7	17	31	0	21,1	64	3	-40	2	3	2	0	0	4,2	15	8,9	10	30+	8	19	4	4,9	73
VICTORIA	32	1012,9	1016,8	34.0	23,8	28.9	-0.2	36,1	31	22,2	18+	30	0	21.7	71	19	-52	6	5	6	0	0	2,7	15	13,0Y	S	11	11	13	7	5,1	
WACO	153	998,3	1015,9	38.1	25,3	31.7	1.9	40,6	31+	23,3	16	31	0	21.1	56	5	-32	4	2	1	0	0	4,1	16	9,8	16	11	14	13	4	4,1	
WICHITA FALLS	303	979,0	1014,6	37.5	22,2	29.9	0.0	41,7	31+	19.4	14+	30	0	18,9	56	38	-17	24	4	5	0	0	3,6	17	14,3	4	31+	18	7	6	3,5	
UTAH																																
MILFORD	1533	847,6	1013,0	32.9	13,2	23.1	-0.4	37,2	16	7,8	11	23	0			28	15	13	8		0	0			16,5	SW	9	17	11	3	3,5	78
SALT LAKE CITY	1286	871,7	1011.9	33.2	17,2	25,2	0.3	37,8	16	11,7	31+	22	0	7,2	36	15	-2	11	6	9	0	0	1.7	17	17,0	NW	27	15	7	9	4,0	83
VERMONT																																
BURLINGTON	101	1003,1	1015,4	26.8	15,0	20,9	-0.1	37,2	20	7,8	23	5	0	14.4	68			27		5		0	1,3	21	13,0	S	25	1	15	15	7.1	61
VIRGINIA																																
LYNCHBURG	279	985,1		32.6	19,0	25,8	1.4	37,2	8	12,2	28+	18	0			29	-74	14	6		0	0	0,7	31	8,9	NW	21	12	14	5	4,7	80
NORFOLK	7	1016,9	1018,1	32.6	22,2	27,4	1.7	37,2	8+	15,6	24	18	0	20.6	69	69	-76	20	9	8	0	0	0,6	21	15,6	36	8	11	12	8	5,3	
RICHMOND	50	1011,2	1017,6	34.2	20.6	27.4	1.9	40,6	6	12,2	28	24	0	20.6	70	107	-36	25	9	9	0	0	0,3	17	15,6	NE	9	9	16	6	4,8	75
ROANOKE	350	977,3	1018,4	33.9	19,1	26,5	2,5	38,9	20+	11,7	28+	21	0	16,7	58	11	-84	4	6	2	0	0	1,3	29	10,3	16	12	8	15	8	5,5	
WALLOPS ISLAND	3			29.9	21,4	25,7	1.1	38,3	21	14,4	28	9	0			18	-81	7	8		0	0			21,5Y	WNW	21					
WASHINGTON																																
OLYMPIA	59	1011,9	1019,2	23.2	7,6	15,4	-2.2	31,7	24	2,8	19+	0	0	9,4	71	8	-10	5	5	0	0	0	1,3	21	8,0	21	1	5	14	12	6,4	
QUILLAYUTE	55	1012,9	1020,3	19.3	8,5	13,9	-1.1	26,1	30+	3,3	18	0	0	10.0	80	49	-11	22	11	0	0	0	1,2	28	6,7	NW	23+	4	10	17	7,2	43
SEATTLE U	6			21.8	12,6	17,2	-1.5	28,3	24	10.0	19+	0	0			20	-2	11	7		0	0			13,0Y	WSW	28					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow Ice pellets		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1002.7	1019.1	24.0	12.8	18.4	0.3	30.6	24	11.1	19+	0	0	10.6	65	11	-7	6	5	0	0	0	0.9	26	7.6	SW	28+	5	13	13	6.3	63
SPOKANE	718	932.3	1014.8	26.9	11.9	19.4	-1.5	34.4	23	5.0	6	7	0	5.0	42	3	-7	2	3	0	0	0	3.1	21	13.0	W	28+	8	11	12	5.7	61
STAMPEDE PASS R	1206	882.5		16.4	6.9	11.7	-1.8	27.8	24	2.2	5+	0	0			60	21	16	15		0	0						8	8	15	6.7	
WALLA WALLA U	289			29.8	15.5	22.7	-1.6	38.3	27	10.0	5+	12	0			9	0	8	2		0	0			9.8	SW	12	17	4	10	4.0	76
YAKIMA	321	977.3	1015.4	29.3	11.6	20.4	-1.1	36.7	27	3.3	6	13	0	6.1	40	T	-4	T	0	0	0	0	2.2	32	12.5	30	1	13	12	6	4.2	
WEST INDIES																																
SAN JUAN P.R.	4	1014.9	1017.4	30.3	23.7	27.0	-0.2	31.7	12+	22.2	15+	0	0	22.9	80	118	-45	35	16	3	0	0	4.3	8	11.6	E	24	4	21	6	5.5	72
WEST VIRGINIA																																
BECKLEY	763	933.3	1019.4	27.5	16.8	22.2	1.1	31.7	20+	8.9	27	0	0	16.7	75	83	-28	36	10	11	0	0	1.3	22	10.3	26	1	3	16	12	6.7	
CHARLESTON	286	985.1	1018.7	30.9	18.9	24.9	1.1	35.6	20+	11.7	3	15	0	18.9	72	125	-3	47	10	7	0	0	0.6	23	9.4	33	25+	7	16	8	5.7	
ELKINS	594	949.9		28.2	15.1	20.7	0.3	32.2	18	5.6	28	1	0			114	-11	36	12		0	0						5	14	12	6.5	
HUNTINGTON	252	988.5	1018.1	31.6	20.1	25.9	1.8	37.2	20	13.3	3	14	0	19.4	71	82	-25	31	8	7	0	0	0.8	21	8.0	27	21	3	12	16	7.1	
PARKERSBURG U	187			30.5	19.2	24.8	0.8	35.0	18	12.8	28+	13	0			96	-12	48	9		0	0			12.1	N	4					63
WISCONSIN																																
GREEN BAY	208	990.5	1015.9	29.5	16.4	22.9	2.3	37.2	14	7.8	26	7	0	16.1	69	54	-24	15	10	12	0	0	1.7	23	15.2	SW	30+	8	13	10	5.9	74
LA CROSSE	198	991.9	1015.8	29.8	18.2	24.0	1.3	38.3	14	10.6	26	10	0			110	20		9	9	0		1.3	20								
MADISON	262	985.6	1016.2	30.2	16.0	23.1	1.9	38.9	14	7.2	10	10	0	16.7	67	168	72	39	11	10	0	0	1.8	23	20.6	W	16	11	14	6	5.3	79
MILWAUKEE	205	991.5	1016.4	27.9	17.7	22.8	1.8	35.6	14	11.1	27	7	0	17.8	73	152	66	71	12	11	0	0	1.9	24	16.5	NW	6	11	11	9	5.3	78
WYOMING																																
CASPER	1627	839.8	1013.4	30.9	13.2	22.1	0.4	37.2	17	4.4	11	12	0	6.7	44	48	24	38	9	8	0	0	1.1	26	16.5	26	10	11	15	5	4.9	
CHEYENNE	1867	815.1	1014.1	27.5	12.7	20.1	-0.5	33.9	17	7.2	11	3	0	7.2	50	89	42	42	10	10	0	0	1.2	27	18.8	NW	14	9	12	10	5.5	58
LANDER	1696	831.7	1013.7	29.8	13.1	21.5	0.1	35.0	17	7.8	11	7	0	5.6	40	64	48	54	5	7	0	0	1.8	25	20.1	S	3	13	12	6	4.6	74
SHERIDAN	1208	880.1	1014.2	30.0	12.2	21.1	-0.2	40.0	17	6.7	1	9	0	9.4	53	42	15	12	9	11	0	0	0.7	31	15.2	NW	26+	10	13	8	4.9	68

HEATING DEGREE DAYS

(Base 65°F.)

JULY 1977

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	0	0	0
HUNTSVILLE	0	0	0
MOBILE	0	0	0
MONTGOMERY	0	0	0
ALASKA			
ANCHORAGE	75	75	220
ANNETTE	262	262	231
BARROW	802	802	815
BARTER ISLAND	842	842	775
BETHEL	269	269	319
BETTLES	88	[illegible]	231
BIG DELTA	114	114	181
COLD BAY	334	334	462
FAIRBANKS	101	101	148
GULKANA	217	217	254
HOMER	322	322	394
JUNEAU	243	243	288
KING SALMON	325	325	326
KODIAK	321	321	338
KOTZEBUE	204	204	375
MC GRATH	111	111	219
NOME	274	274	462
ST. PAUL ISLAND	499	499	598
TALKEETNA	145	145	220
UNALAKLEET	215	215	341
VALDEZ	280	280	363
YAKUTAT	292	292	360
ARIZONA			
FLAGSTAFF	9	9	52
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	0	0	0
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	[illegible]	0
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	0	0	0
BLUE CANYON	35	35	27
EUREKA U	302	302	270
FRESNO	0	0	0
LONG BEACH	0	0	0
LOS ANGELES	1	1	19
LOS ANGELES U	0	0	0
MT SHASTA R	21	21	37
OAKLAND	46	46	80
RED BLUFF	0	0	0
SACRAMENTO	0	0	0
SANDBERG R	3	3	7
SAN DIEGO	0	0	6
SAN FRANCISCO	103	103	93
SAN FRANCISCO U	197	197	202
SANTA MARIA	81	81	112
STOCKTON	0	0	0
COLORADO			
ALAMOSA	19	19	55
COLORADO SPRINGS	2	2	9
DENVER	2	2	0
GRAND JUNCTION	0	0	0
PUEBLO	0	0	0
CONNECTICUT			
BRIDGEPORT	4	[illegible]	0
HARTFORD	1	1	0
DELAWARE			
WILMINGTON	0	0	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	1	1	0
WASHINGTON NATIONAL	0	0	0
FLORIDA			
APPALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	0	0
PENSACOLA	0	0	0
TALLAHASSEE	0	0	0
TAMPA	0	0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	0	0	0
ATLANTA	0	0	0
AUGUSTA	0	0	0
COLUMBUS	0	0	0
MACON	0	0	0
ROME	0	0	0
SAVANNAH	0	0	0
IDAHO			
BOISE	8	8	0
LEWISTON	16	16	0
POCATELLO	1	1	[illegible]
ILLINOIS			
CAIRO U	0	0	[illegible]
CHICAGO O HARE	0	0	7
CHICAGO MIDWAY	0	0	0
MOLINE	0	[illegible]	0
PEORIA	0	0	0
ROCKFORD	0	0	6
SPRINGFIELD	0	0	0
INDIANA			
EVANSVILLE	0	[illegible]	0
FORT WAYNE	2	2	0
INDIANAPOLIS	0	0	[illegible]
SOUTH BEND	2	2	6
IOWA			
BURLINGTON	0	0	0
DES MOINES	0	0	0
DUBUQUE	1	1	11
SIOUX CITY	0	0	0
WATERLOO	2	2	7
KANSAS			
CONCORDIA	0	0	0
DODGE CITY	0	0	0
GOODLAND	2	2	0
TOPEKA	0	0	[illegible]
WICHITA	0	[illegible]	0
KENTUCKY			
COVINGTON	0	0	0
LEXINGTON	0	0	[illegible]
LOUISVILLE	0	0	0
LOUISIANA			
ALEXANDRIA	0	0	[illegible]
BATON ROUGE	0	0	[illegible]
LAKE CHARLES	0	0	[illegible]
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	56	56	84
PORTLAND	29	29	27
MARYLAND			
BALTIMORE	0	0	[illegible]
MASSACHUSETTS			
BLUE HILL OBS R	7	7	6
BOSTON	0	0	0
WORCESTER	16	16	10
MICHIGAN			
ALPENA	49	49	75
DETROIT	0	0	0
DETROIT METRO	1	1	5
FLINT	7	7	14
GRAND RAPIDS	3	3	8
HOUGHTON LAKE	29	29	39
LANSING	7	7	9
MARQUETTE U	50	50	57
MUSKEGON	7	7	15
SAULT STE MARIE	111	111	96
MINNESOTA			
DULUTH	46	46	67
INTERNATIONAL FALLS	34	34	66
MINNEAPOLIS	0	0	11
ROCHESTER	1	1	21
ST CLOUD	6	6	18
MISSISSIPPI			
JACKSON	0	0	[illegible]
MERIDIAN	0	0	0
MISSOURI			
COLUMBIA REGIONAL	0	0	[illegible]
KANSAS CITY	0	0	[illegible]
ST JOSEPH	0	0	0
ST LOUIS	0	0	0
SPRINGFIELD	0	0	0
MONTANA			
BILLINGS	0	0	10
GLASGOW	32	32	15
GREAT FALLS	37	37	18
HAVRE	20	20	18
HELENA	52	52	33
KALISPELL	85	85	72
MILES CITY	0	0	[illegible]
MISSOULA	59	59	39
NEBRASKA			
GRAND ISLAND	0	0	6
LINCOLN	0	0	0
NORFOLK	0	[illegible]	6
NORTH PLATTE	[illegible]	2	7
OMAHA	0	[illegible]	7
SCOTTSBLUFF	0	0	0
VALENTINE	0	[illegible]	8
NEVADA			
ELKO	0	[illegible]	27
ELY	[illegible]	[illegible]	23
LAS VEGAS	0	0	0
RENO	10	10	17
WINNEMUCCA	2	2	6
NEW HAMPSHIRE			
CONCORD	37	37	16
MT WASHINGTON OBS	538	538	502
NEW JERSEY			
ATLANTIC CITY	2	2	0
ATLANTIC CITY U	0	0	0
NEWARK	[illegible]	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	[illegible]	0
CLAYTON	0	[illegible]	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	7	7	9
BINGHAMTON	15	15	21
BUFFALO	5	5	12
NEW YORK U	0	0	0
NEW YORK KENNEDY	0	0	0
NEW YORK LA GUARDIA	0	[illegible]	0
ROCHESTER	[illegible]	[illegible]	9
SYRACUSE	14	14	11
NORTH CAROLINA			
ASHEVILLE	0	[illegible]	0
CAPE HATTERAS R	0	[illegible]	0
CHARLOTTE	0	[illegible]	0
GREENSBORO	0	[illegible]	0
RALEIGH	[illegible]	0	0
WILMINGTON	0	0	0
NORTH DAKOTA			
BISMARCK	17	17	18
FARGO	7	7	13
WILLISTON	8	8	22
OHIO			
AKRON	4	4	9
CINCINNATI ABBE OB	0	0	0
CLEVELAND	4	4	9
COLUMBUS	1	1	0
DAYTON U	0	0	0
MANSFIELD	9	[illegible]	0
TOLEDO	3	[illegible]	5
YOUNGSTOWN	9	[illegible]	9
OKLAHOMA			
OKLAHOMA CITY	[illegible]	[illegible]	0
TULSA	0	0	0
OREGON			
ASTORIA	190	190	163
BURNS U	47	47	30
EUGENE	68	68	41
MEDFORD	14	14	11
PENDLETON	20	20	[illegible]
PORTLAND	40	40	48
SALEM	57	57	43
SEXTON SUMMIT R	126	126	97
PENNSYLVANIA			
ALLENTOWN	0	0	0
ERIE	9	9	24
HARRISBURG	0	[illegible]	0
PHILADELPHIA	0	0	0
PITTSBURGH	11	11	7
PITTSBURGH U	2	2	0
SCRANTON	14	14	[illegible]
WILLIAMSPORT	4	[illegible]	0
RHODE ISLAND			
BLOCK ISLAND	0	0	9
PROVIDENCE	0	[illegible]	0
SOUTH CAROLINA			
CHARLESTON	[illegible]	[illegible]	0
CHARLESTON U	0	0	0
COLUMBIA	0	0	0
GRNVLLE-SPRTNBRG	0	0	0
SOUTH DAKOTA			
ABERDEEN	2	2	12
HURON	0	0	9
RAPID CITY	1	1	13
SIOUX FALLS	0	0	10
TENNESSEE			
BRISTOL	0	0	0
CHATTANOOGA	[illegible]	0	0
KNOXVILLE	0	0	0
MEMPHIS	0	0	0
NASHVILLE	0	0	0
OAK RIDGE	0	0	0
TEXAS			
ABILENE	0	[illegible]	0
AMARILLO	0	0	0
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS FT WORTH	0	0	0
DEL RIO	[illegible]	[illegible]	0
EL PASO	0	0	0
GALVESTON	0	0	0
HOUSTON INTERCON	0	0	0
LUBBOCK	0	[illegible]	0
MIDLAND	0	0	0
PORT ARTHUR	0	0	0
SAN ANGELO	0	[illegible]	0
SAN ANTONIO	0	0	0
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	0	0	0
SALT LAKE CITY	[illegible]	0	0
VERMONT			
BURLINGTON	24	24	20
VIRGINIA			
LYNCHBURG	0	0	0
NORFOLK	0	0	0
RICHMOND	0	0	0
ROANOKE	0	[illegible]	0
WALLOPS ISLAND	[illegible]	0	0
WASHINGTON			
OLYMPIA	166	166	89
QUILLAYUTE	240	240	194
SEATTLE	78	78	62
SEATTLE-TACOMA	34	34	80
SPOKANE	57	57	21
STAMPEDE PASS R	372	372	281
WALLA WALLA U	10	10	[illegible]
YAKIMA	32	32	20
WEST VIRGINIA			
BECKLEY	8	8	11
CHARLESTON	0	0	0
ELKINS	22	22	20
HUNTINGTON	0	0	0
PARKERSBURG U	0	[illegible]	0
WISCONSIN			
GREEN BAY	3	[illegible]	22
LA CROSSE	1	1	10
MADISON	6	6	14
MILWAUKEE	8	8	15
WYOMING			
CASPER	3	3	13
CHEYENNE	21	21	22
LANDER	2	2	9
SHERIDAN	12	12	28

COOLING DEGREE DAYS

(Base 65°F.)

JULY 1977

State and station	Current season: This month	Current season: Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	578	1380	1131
HUNTSVILLE	557	1230	1054
MOBILE	579	1645	1504
MONTGOMERY	585	1566	1297
ALASKA			
ANCHORAGE	8	8	0
ANNETTE	0	0	14
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	0	0
BETTLES	54	54	17
BIG DELTA	26	26	28
COLD BAY	0	0	0
FAIRBANKS	44	44	46
GULKANA	4	4	9
HOMER	0	0	0
JUNEAU	0	0	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	18	18	0
MC GRATH	17	17	14
NOME	11	11	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	6	6	6
UNALAKLEET	9	9	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	82	110	85
PHOENIX	936	2423	1931
TUCSON	691	1624	1565
WINSLOW	423	712	691
YUMA	921	2179	2258
ARKANSAS			
FORT SMITH	554	1324	1161
LITTLE ROCK	537	1353	1124
CALIFORNIA			
BAKERSFIELD	651	1468	1196
BISHOP	373	677	616
BLUE CANYON	123	252	143
EUREKA U	0	0	0
FRESNO	518	1091	926
LONG BEACH	295	469	384
LOS ANGELES	121	161	221
LOS ANGELES U	293	518	483
MT SHASTA R	104	210	160
OAKLAND	33	49	42
RED BLUFF	564	1167	1051
SACRAMENTO	290	551	625
SANDBERG R	260	421	372
SAN DIEGO	212	263	267
SAN FRANCISCO	30	40	34
SAN FRANCISCO U	18	19	5
SANTA MARIA	24	24	27
STOCKTON	446	903	677
COLORADO			
ALAMOSA	36	38	64
COLORADO SPRINGS	204	307	283
DENVER	297	524	358
GRAND JUNCTION	477	982	681
PUEBLO	396	737	585
CONNECTICUT			
BRIDGEPORT	249	343	401
HARTFORD	303	557	369
DELAWARE			
WILMINGTON	360	621	579
DIST. OF COLUMBIA			
WASHINGTON DULLES	361	624	564
WASHINGTON NATIONAL	496	1021	829
FLORIDA			
APPALACHICOLA U	512	1425	1486
DAYTONA BEACH	553	1764	1578
FORT MYERS	520	1782	2026
JACKSONVILLE	599	1536	1648
KEY WEST	589	2530	2759
LAKELAND U	551	1929	1841
MIAMI	587	2240	2197
ORLANDO	537	1783	1779
PENSACOLA	531	1545	1552
TALLAHASSEE	536	1450	1476
TAMPA	559	1929	1869
WEST PALM BEACH	531	2082	2041
GEORGIA			
ATHENS	524	1234	1015
ATLANTA	456	1048	917
AUGUSTA	555	1376	1182
COLUMBUS	600	1577	1255
MACON	573	1550	1364
ROME	529	1204	932
SAVANNAH	574	1582	1350
HAWAII			
HILO	379	2114	1640
HONOLULU	498	2615	2226
KAHULUI	409	2157	1976
LIHUE	430	2153	1948
IDAHO			
BOISE	255	455	403
LEWISTON	275	553	366
POCATELLO	190	320	254
ILLINOIS			
CAIRO	575	1452	1090
CHICAGO O HARE	395	803	394
CHICAGO MIDWAY	424	908	545
MOLINE	397	796	555
PEORIA	416	813	595
ROCKFORD	330	661	437
SPRINGFIELD	452	983	681
INDIANA			
EVANSVILLE	501	1149	835
FORT WAYNE	353	723	457
INDIANAPOLIS	410	896	600
SOUTH BEND	355	745	415
IOWA			
BURLINGTON	452	892	608
DES MOINES	505	1023	567
DUBUQUE	302	557	373
SIOUX CITY	346	655	584
WATERLOO	297	558	424
KANSAS			
CONCORDIA	518	949	749
DODGE CITY	604	1202	820
GOODLAND	360	582	543
TOPEKA	493	980	802
WICHITA	581	1159	973
KENTUCKY			
COVINGTON	407	759	641
LEXINGTON	422	932	713
LOUISVILLE	479	1058	745
LOUISIANA			
ALEXANDRIA	605	1682	1267
BATON ROUGE	573	1637	1510
LAKE CHARLES	559	1552	1573
NEW ORLEANS	593	1744	1554
SHREVEPORT	580	1416	1440
MAINE			
CARIBOU	69	145	89
PORTLAND	135	180	142
MARYLAND			
BALTIMORE	439	827	655
MASSACHUSETTS			
BLUE HILL OBS R	218	334	274
BOSTON	314	544	397
WORCESTER	155	242	242
MICHIGAN			
ALPENA	125	200	123
DETROIT	382	709	443
DETROIT METRO	341	581	397
FLINT	286	454	270
GRAND RAPIDS	286	527	351
HOUGHTON LAKE	192	299	155
LANSING	282	501	329
MARQUETTE U	126	194	112
MUSKEGON	237	378	270
SAULT STE MARIE	49	73	70
MINNESOTA			
DULUTH	80	116	100
INTERNATIONAL FALLS	92	183	120
MINNEAPOLIS	310	596	373
ROCHESTER	255	454	306
ST CLOUD	199	378	272
MISSISSIPPI			
JACKSON	595	1525	1358
MERIDIAN	584	1424	1323
MISSOURI			
COLUMBIA REGIONAL	430	865	752
KANSAS CITY	463	947	839
ST JOSEPH	493	983	803
ST LOUIS	509	1113	883
SPRINGFIELD	479	990	796
MONTANA			
BILLINGS	242	409	287
GLASGOW	166	286	255
GREAT FALLS	139	225	187
HAVRE	188	295	239
HELENA	101	158	143
KALISPELL	48	67	60
MILES CITY	296	562	434
MISSOULA	92	129	107
NEBRASKA			
GRAND ISLAND	437	814	621
LINCOLN	501	928	699
NORFOLK	415	787	563
NORTH PLATTE	305	507	486
OMAHA	494	904	574
SCOTTSBLUFF	356	661	407
VALENTINE	307	559	443
NEVADA			
ELKO	217	372	194
ELY	86	110	114
LAS VEGAS	858	1862	1654
RENO	154	301	196
WINNEMUCCA	257	449	253
NEW HAMPSHIRE			
CONCORD	168	294	219
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	328	516	506
ATLANTIC CITY U	324	472	436
NEWARK	414	740	597
TRENTON U	380	697	577
NEW MEXICO			
ALBUQUERQUE	427	795	789
CLAYTON	342	599	452
ROSWELL	602	1410	954
NEW YORK			
ALBANY	222	375	367
BINGHAMTON	174	286	230
BUFFALO	228	386	263
NEW YORK U	442	766	616
NEW YORK KENNEDY	321	491	484
NEW YORK LA GUARDIA	387	656	608
ROCHESTER	260	447	327
SYRACUSE	202	333	333
NORTH CAROLINA			
ASHEVILLE	340	574	512
CAPE HATTERAS R	499	1031	812
CHARLOTTE	545	1107	932
GREENSBORO	483	986	806
RALEIGH	490	998	820
WILMINGTON	553	1320	1128
NORTH DAKOTA			
BISMARCK	186	331	295
FARGO	235	456	289
WILLISTON	204	374	253
OHIO			
AKRON	314	598	385
CINCINNATI ABBE OB	447	900	714
CLEVELAND	262	435	372
COLUMBUS	354	685	497
DAYTON U	393	788	566
MANSFIELD	299	473	487
TOLEDO	309	540	417
YOUNGSTOWN	246	444	316
OKLAHOMA			
OKLAHOMA CITY	565	1226	1057
TULSA	619	1444	1104
OREGON			
ASTORIA	0	0	[illegible]
BURNS U	120	210	165
EUGENE	32	62	125
MEDFORD	239	408	302
PENDLETON	190	361	375
PORTLAND	90	132	159
SALEM	50	69	118
SEXTON SUMMIT R	50	68	60
PACIFIC AREA			
GUAM TAGUAC R	474	2881	2875
JOHNSTON	485	2839	2803
KOROR R	507	3695	3472
KWAJALEIN	526	3619	3541
MAJURO	501	3407	3410
PAGO PAGO	465	3398	3138
PONAPE R	507	3572	3302
TRUK MOEN ISLAND	529	3613	3422
WAKE	560	3018	2982
YAP R	478	3434	3432
PENNSYLVANIA			
ALLENTOWN	331	602	476
ERIE	179	284	220
HARRISBURG	347	612	627
PHILADELPHIA	402	698	656
PITTSBURGH	291	406	401
SCRANTON	208	342	375
WILLIAMSPORT	282	497	429
RHODE ISLAND			
BLOCK ISLAND	197	233	174
PROVIDENCE	295	476	310
SOUTH CAROLINA			
CHARLESTON	588	1506	1201
CHARLESTON U	626	1659	1341
COLUMBIA	549	1379	1235
GRNVLLE-SPRTNBRG	528	1154	932
SOUTH DAKOTA			
ABERDEEN	291	494	343
HURON	369	638	438
RAPID CITY	270	438	374
SIOUX FALLS	352	691	442
TENNESSEE			
BRISTOL	374	735	651
CHATTANOOGA	578	1225	965
KNOXVILLE	483	1064	932
MEMPHIS	619	1643	1207
NASHVILLE	543	1252	1002
OAK RIDGE	387	744	816
TEXAS			
ABILENE	590	1387	1424
AMARILLO	493	1002	842
AUSTIN	629	1614	1650
BROWNSVILLE	615	2131	2239
CORPUS CHRISTI	616	1928	1973
DALLAS FT WORTH	693	1766	1437
DEL RIO	649	1717	2005
EL PASO	540	1265	1280
GALVESTON	553	1576	1647
HOUSTON INTERCON	547	1476	1637
LUBBOCK	482	1157	1006
MIDLAND	584	1495	1307
PORT ARTHUR	627	1771	1585
SAN ANGELO	621	1550	1589
SAN ANTONIO	620	1586	1725
VICTORIA	599	1722	1777
WACO	754	1834	1610
WICHITA FALLS	652	1481	1486
UTAH			
MILFORD	273	406	386
SALT LAKE CITY	389	657	517
VERMONT			
BURLINGTON	174	342	253
VIRGINIA			
LYNCHBURG	424	780	666
NORFOLK	515	1035	821
RICHMOND	513	1007	805
ROANOKE	461	868	614
WALLOPS ISLAND	416	680	603
WASHINGTON			
OLYMPIA	7	21	60
QUILLAYUTE	1	2	8
SEATTLE	24	30	111
SEATTLE-TACOMA	44	70	76
SPOKANE	126	218	214
STAMPEDE PASS R	[illegible]	13	8
WALLA WALLA U	258	510	488
YAKIMA	158	316	295
WEST INDIES			
SAN JUAN P.R.	491	3128	2733
WEST VIRGINIA			
BECKLEY	229	359	298
CHARLESTON	373	754	648
ELKINS	160	248	244
HUNTINGTON	427	864	672
PARKERSBURG U	371	738	631
WISCONSIN			
GREEN BAY	269	442	240
LA CROSSE	325	643	434
MADISON	278	524	286
MILWAUKEE	264	422	255
WYOMING			
CASPER	218	368	259
CHEYENNE	126	185	194
LANDER	185	309	218
SHERIDAN	176	292	253

STORM SUMMARY

JULY 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ϕ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama	2	2			5			3			2	5		3	4	5													
Alaska								2	2							7													
Arizona	1	1							4			5		1														4	
Arkansas	1	1									1	5			2	4													
California *																													
Colorado	4	3			5			5	5			5		3	1	4												6	5
Connecticut															1	4													
Delaware												2																	
Florida	8	8		8	6							[illegible]			4														
Georgia	2	2			4							4		1	2	3												3	
Hawaii *																													
Idaho								3	5			4				5												3	
Illinois	1	1			5			2	[illegible]		2	6	2		1	6	2											2	2
Indiana	1	1			5			2	[illegible]			5	2		1														
Iowa	4	4		5							3	5	4		3	5												2	
Kansas	1	1			3			5	6		1	4	5		1	5	4											4	6
Kentucky									5		2	5	5															5	
Louisiana	2	2		3	4			3			1	4		2	5	5													
Maine												6	3	1															
Maryland & DC												5				4											1	4	
Massachusetts															4	5													
Michigan	9	6		3	5				C		7	6	C		4	6	C												C
Minnesota	9	5		12	6			5	5		1	6	5	1		5													
Mississippi	2	2		1	5				2		1	5	2	1	3	5	2											2	2
Missouri									4			4			1	4													
Montana									4				4																
Nebraska	8	6			6			6	7			6	6			5													
Nevada *																													
New Hampshire												5	3																
New Jersey																												2	
New Mexico								2	2					1	1													5	2
New York											3	5	2		1	4												5	2
North Carolina	4	4			5				5			5	2																7
North Dakota	9	7			5			5	6			5	5			3												2	
Ohio								3			10	7			1	5										1		6	C
Oklahoma	2	2			4		1	5	6		1	6		1		2													
Oregon								[illegible]	[illegible]							2												2	2
Pacific *																													
Pennsylvania	2	1			[illegible]			[illegible]	2	2	2	6	2	1	8	6	2									74	2	9	8
Puerto Rico *																													
Rhode Island																4													
South Carolina								2	3	1	2	5	3			4												5	7
South Dakota	11	2			5			4	5			4	4			4	4												
Tennessee								3				4			10														
Texas	5	4			3			3				5	[illegible]			4												3	
Utah																												5	
Vermont												4																	
Virginia	4	4		2	5			3	5		9	5	4			5												3	
Virgin Islands *																													
Washington *																													
West Virginia	1			4	5			2	2			[illegible]	2																
Wisconsin	5	1	1	28	7			[illegible]		1	35	7	C																
Wyoming								6	C																				

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1977

Herbert J. Thompson, Office of Hydrology

The major flood event of July was the catastrophic flash flooding in the Johnstown, PA, area which cost at least 76 lives and did more than $200 million damage. Numerous urban and flash flood events occurred in other sections of the country, some of which caused significant losses. Areas affected included western New York State, central New Jersey, southwest Illinois and southeast Missouri, Wyoming, south central North Dakota, Colorado, eastern Nebraska, Ohio, Kentucky, western Texas, New Mexico, Arizona, Utah, Nevada, and Washington.

Except for the flooding in the Osage River drainage in Missouri caused by heavy rains in June, river flooding was generally of a rather minor nature. Streams affected included the Genessee and Allegheny Rivers in New York, the Pecatonica River in Wisconsin, the Big Papillion River in Nebraska, the North Fork Solomon River in Kansas, and the Kenai River in Alaska.

The serious drought situation ended in Puerto Rico but continued over most of the western States.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
On the 31st a thunderstorm deposited 3.3 inches of rain in the Manton area of Wexford County, MI, with urban flooding affecting roads and basements. In New York general rainfall of about 2 inches on the 6th-7th caused the Genessee River to exceed flood stage slightly on the 8th. Minor flooding occurred along the Huron River and Killbuck Creek in Ohio on the 4th. Several families were evacuated in Huron.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
There was no flooding on larger streams in the drainage. The only significant event reported occurred on the morning of the 12th when nearly stationary thunderstorms dumped up to 6 inches of rain in 6 hours on portions of Mercer, Hunterdon, Somerset, and Monmouth Counties in central New Jersey. Highway and small stream flooding resulted but no reporting stations exceeded flood stage.	0	N.A.
UPPER MISSISSIPPI BASIN		
Minor flooding resulted from rains averaging about 5 inches over the upper Pecatonica River Basin in southern Wisconsin on the 16th-18th. The Pecatonica River crested a little more than 2 feet over flood stage at Darlington, WI. Near record low flows were reported on the Fox, Wolf, and Wisconsin Rivers in central Wisconsin. Locally heavy rains of 6 inches occurred over Spring Brook Park on the Middle Raccoon River on the 28th. However, no flooding developed due to dry antecedent conditions. Widespread flash flooding occurred the night of June 30 - July 1 in portions of Bollinger, Cape Girardeau, Stoddard, and Scott Counties in southeast Missouri and Union and Alexander Counties in adjacent parts of Illinois. The community of Chaffee, MO, was particularly hard hit.	0	N.A.
MISSOURI BASIN		
On the 23d-24th, flash flooding occurred in widely separated	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN-Cont'd		
parts of Wyoming. Flash floods washed out a small section of highway just to the north of Jackson; temporarily closed Interstate Highway 80 near Evanston; flooded streets, basements, underpasses, and low-lying areas of Evanston, Rock Springs, Laramie, Casper, and Cheyenne; and washed out county roads (both paved and unpaved) in sections of Sweetwater, Carbon, Albany, Natrona, and Laramie Counties. No lives were lost and only a few minor injuries were reported; the most dramatic human event involved a Casper mother and daughter who were swept into and through a storm drain beneath a city street suffering only minor bruises. Five persons were rescued from atop a Laramie County night club, and six were stranded in a remote Johnson County canyon by high water. No dollar estimates of damage are available, but most damage was to roadways.		
Flash flooding occurred in Emmons and Logan Counties of North Dakota on the 5th resulting from as much as 5 inches of rain in 4 hours from 10 p.m. on the 4th to 2 a.m. on the 5th. About 25 homes were affected in Napoleon, of which 20 were evacuated, and 10 small businesses suffered damage. Losses in Napoleon are estimated to be as much as $75,000. Widespread rural flooding occurred along Big Beaver Creek, but the stream crested below flood stage at Linton downstream. Losses were primarily to roads and are not known. Flash flooding was also reported in Burleigh County on the 11th from up to 4 inches of rain.	0	N.A.
A record 24-hour rainfall of 4.45 inches occurred at Fort Collins, CO, on the 24th-25th. Records began there in 1887. Urban and small stream flooding occurred around Fort Collins with several families evacuated. Total rainfall of 5.86 inches for the month also exceeded the previous July record.	0	N.A.
Severe urban and small stream flooding occurred in the Papillion Creek drainage just south of Omaha, NE, on the 24th as a result of rains of up to 7 inches in 2.5 hours. Losses include: $273,000 to public property; $300,000 to the College of St. Mary; $100,000 residential; and $200,000 to automobiles and other moveable items. A detailed report on this flooding is available at the Corps of Engineers District Office in Omaha. Minor flooding occurred on the Big Papillion River at Fort Crook on the 9th.	0	873
Moderate flooding occurred along the North Fork of the Solomon from locally heavy rains of over 6 inches between Dresdon and Lenora, KS. A crest about 2 feet over flood stage was reported at Lenora.	0	N.A.
Flooding continued from June on the Osage River in Missouri and its Marmaton and Little Osage tributaries. This flooding ended by the 7th. (See June Flood Report.)	0	N.A.
OHIO RIVER BASIN		
Flash flooding in the Red House Lake area of Allegheny State Park, Chautauqua County, New York; damaged the boathouse, parking lot, and beach, and caused the evacuation of 40 camping families which was accomplished without injury. This flooding resulted from over 2 inches of rain in 35 minutes following 1.5 inches the previous day.	0	100
This same storm also caused flash flooding in other areas of Chautauqua County, washing out a county bridge in New Albion	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
and damaging a motel. On the 11th 3 inches of rain from a thunderstorm caused flash flooding along Minnow Brook in Jamestown, NY, flooding the Jamestown WCA Hospital and the Lakewood Mall parking lot.		
Flash flooding occurred in the early morning of the 13th at Rushford and Houghton in Allegheny County, New York. An amount of 3 inches of rain in about an hour was reported 2 miles north of Rushford. About $200,000 damage was reported to roads and bridges in Houghton.	0	364
The Allegheny River exceeded flood stage slightly at Olean, NY, on the 8th without significant damage.	0	0
Catastrophic flash flooding struck a seven county area of southwest Pennsylvania on the 19th-20th with the city of Johnstown bearing the brunt of the losses. Counties affected were Blair, Cambria, Clearfield, Indiana, Jefferson, Somerset, and Westmoreland. Johnstown is located at the lower end of a 20 mile long valley where Stoney Creek and the Little Conemaugh River join to form the Conemaugh River. This basin was subjected to almost continuous rain for about 9 hours from 7 p.m. on the 19th to 4 a.m. on the 20th. Preliminary data indicates the intensity of the rain ranged up to 1.8 inches per hour for 2 to 3 hour periods; however, 2.2 inches fell on a portion of Johnstown in 40 minutes early on the 20th. The area of maximum storm rainfall of 12 inches was centered to the north and east of downtown Johnstown and included the Laurel Run drainage. The failure of a water supply dam on Laurel Run was directly responsible for at least 13 deaths, and the area downstream from the dam was totally demolished by the resulting "wall of water." A survey by the Corps of Engineers found that of the 66 small dams in the affected area, 6 failed completely and 4 partially failed, contributing substantially to the destruction. Synoptic meteorological features including well above normal precipitable moisture, an unstable air mass, and low level convergence all favored thunderstorm acitvity in the area. The relatively light upper level winds, and the slow movement of the upper level low, both indicated that individual thunderstorms would move slowly enough for some locally heavy rainfall. However, there was no basis to predict the 12 inches of rain that fell near Johnstown.	76	215,000
Johnstown has been subject to two devastating floods in the past. The flood of record, in 1889, was caused by the failure of the South Fork Fishing and Hunting Club Dam. The flood of March 1936 was due to natural causes. Subsequent to the 1936 flood extensive channel modifications were completed which served to lower the peak stage by 11 feet. Even though the discharge of 120,000 c.f.s. for the July 1977 flood was 50% greater than the 1936 flood the crest stage was 6 feet lower. The stage of streams in Johnstown was said to have risen as much as 34 feet above normal summer levels. The National Weather Service does not receive stage reports on streams in the area. The U.S. Geological Survey reports record stages on several small streams in the area with recurrence intervals for the peak discharge of as much as 500 years.		
In addition to the 76 known dead, 11 people were still missing as October 22, 1977. The American Red Cross reports 2,696 persons were injured or suffered illness as a result of the flooding, 5 of whom were hospitalized. Losses include: 413		

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
residences destroyed, 1,363 with major damage, and 4,108 with minor damage; 52 apartments or condominiums destroyed, 93 with major damage, and 1,148 incurred minor damage; 405 samll businesses were destroyed or suffered major damage and 7,794 families suffered losses of some sort; 135 mobile homes were destroyed and 77 suffered major damage. A detailed report on this flooding has been prepared by a NOAA Disaster Survey Team.		
Elsewhere in the Ohio Basin flash flooding occurred on the 22d along Feds Creek, a tributary of the Levisa Fork about 20 miles east of Pikeville, KY. This flooding, caused by nearly 3 inches of rain in 2 hours, damaged 40 homes and isolated about 70 more due to road damage. Also on the 22d flash flooding in the southern portions of Wooster, OH, caused the evacuation of 300 persons from their homes. On the 25th flash flooding was reported at Kelly's Station in Armstrong County in western Pennsylvania.	0	N.A.
ARKANSAS RIVER BASIN		
No river flooding was reported. However, locally heavy rains occurred in several areas and some small streams, and flash flooding was reported particularly in the Colorado portion of the drainage along the Arkansas River below Pueblo, along the Front Range, and near Walsenburg with numerous small bridges and dirt roads washed out. Damage was minimal. Flash flooding 15 miles east of Trinidad took one life and did an estimated $18,000 damage on the 31st.	1	18
WEST GULF OF MEXICO DRAINAGE		
Although no river flooding was reported, several significant flash flood events occurred. On the night of the 1st numerous roads in Big Bend National Park in west Texas were washed out. In New Mexico flash flooding occurred along Frijoles Canyon in Bandelier National Monument on the 5th with 150 tourists evacuated, along Agua Fria and Galisteo Creek in Santa Fe on the 9th, and in Pena Blanca on the 12th. Urban flooding occurred in Santa Fe and Albuquerque on the 25th.	0	N.A.
GULF OF CALIFORNIA - COLORADO RIVER BASIN		
The worst flooding in 25 years occurred along Willow Creek in Carbon County, Utah, on the 4th. Flooding was reported in the communities of Helper, Spring Glen, Carbonville, and Price. The Price Game Farm and Carbon County Golf Course were inundated with damages approaching $150,000. Flash flooding occurred along Dugout Canyon in Carbon County on the 24th with road damage.	0	250
Significant losses from urban and flash flood events were reported in New Mexico. These include: Silver City on the 5th and 20th, Gallup on the 19th and 21st, Church Rock on the 19th and 26th, Lordsburg on the 21st and 28th, and Crownpoint on the 27th. A record 1.88 inches of rain fell on Gallup in 2 hours during the night of the 18th. About 3 inches of rain fell in a half hour 25 miles south of Animas with substantial agricultural, highway, and pipeline damage.	0	N.A.
Several flash flood events also occurred in Arizona during the	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GULF OF CALIFORNIA - COLORADO RIVER BASIN-Cont'd		
month including road closures near Tucson on the 23d, Maricopa County on the 26th, and Fort Apache Indian Reservation near White River on the 10th.		
Some road damage from flash flooding was reported at Glade Park, CO, on the 27th.		
GREAT BASIN		
Flash flooding in Richfield, UT, on the 23d caused $7,000 damage. No details are available. Some road damage was reported near Jarbridge in northeastern Nevada during the month, and along the West Canyon area of the West Walker River in west central Nevada on the 1st.	0	7
PACIFIC SLOPE DRAINAGE - COLUMBIA RIVER BASIN		
Heavy rain from nearly stationary thunderstorms over an area just west of the Columbia River and about 20 miles east southeast of Ellensburg, WA, caused flash flooding below canyons opening into the Columbia River Valley. Sections of roads were washed out, rail bed was damaged, and a community water line was broken. Families in a community known as Getty's Cove were isolated and left without water after two bridges on their private access road were destroyed and their water line was broken. A "wall of water" traveling at high speed out of a nearby canyon demolished the bridges and contributed debris which broke the water line.	0	N.A.
Another thunderstorm south and west of Ellensburg sent runoff from heavy rain down a nearly dry creek bed - Manastash Creek - washing out sections of a new road and stranding some loggers.	0	N.A.
The area north of Entiat, WA, particularly Byrd and Crum Canyons, was again the scene of flash flooding from heavy thundershowers. This area was severely damaged in June this year also from flash flooding. The mud fan from flash flooding in Byrd Canyon opening on the Columbia River covered U.S. Highway 97 and the Burlington Northern Railroad tracks, both of which parallel the Columbia River. This slide and another about a mile farther north trapped 8 vehicles on the highway for about 5 hours. Orchards and some outbuildings were again damaged by mud and debris as they were the month before. The highway was closed to traffic for 2 days after the storm. Traffic was temporarily rerouted to a county road east of the Columbia River. As in June the thunderstorm causing the flash flooding from Byrd and Crum Canyons was nearly stationary over the ridge between the Columbia River and the Entiat River. Flash flooding again took place in Crum Canyon on the Entiat River side. Although damage was not as severe as that which took place in June more farmland and rangeland was damaged, a tractor was badly damaged, 1 farm house sustained damage, and domestic and irrigation water lines were damaged. More damage was inflicted on orchards. About 1,400 acres of cropland were affected.		
ALASKA		
Flooding continued along the Kenai River the entire month of July caused primarily by melting of the record snowpack in the Kenai	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

JULY 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ALASKA-Cont'd		
Mountains. Several intermediate crests were reported as the rate of snowmelt varied, but the ultimate crest occurred in August. The flooding affected campgrounds, roads, and non-floating boat docks and isolated several buildings.		
PUERTO RICO		
After many months of below normal rainfall and increasing drought intensities, Puerto Rico began to receive increased shower activity over all zones except the southern coastal strip during the last half of July. Heavier showers totaling 4 to 6 inches with durations of 2 to 4 hours were reported in the western portions during the final few days of the month. In the central and northern divisions there were reported numerous moderate to heavy showers of 3 to 5 inches with durations of 2 to 6 hours. There was only one report of minor flooding during the month when 6.38 inches of rain fell on the western coast in the area of Puerto Real, and a small creek (Quebrada Mendoza) overflowed for a short time over a nearby country road. High soil moisture deficiencies accounted for low runoff in this area, and all of the main streams and rivers remained well below bankfull. The agricultural drought was greatly eased by increased shower activity, and municipal water supplies in the central divisions were brought close to capacity, thus ending months of water rationing for many towns.	0	N.A.

FLOOD STAGE DATA

(All dates in [illegible] unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From	Above flood stages —dates To	Crest Stage	Crest Date
	Ft			Ft	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Ontario					
Genesee:					
Wellsville, NY	[illegible]	8	8	[illegible]	8
UPPER MISSISSIPPI BASIN					
East Branch Pecatonica River:					
Blanchardville, WI	[illegible]	19	19	[illegible]	19
Pecatonica River:					
Darlington, WI	11	18	19	13.4	19
Martintown, WI	11	[illegible]	[illegible]	12.0	[illegible]
MISSOURI RIVER BASIN					
Big Papillion Creek:					
Fort Crook, NE	[illegible]	9	9	[illegible]	9
North Fork Solomon River:					
Lenora, KS	10	26	26	[illegible]	[illegible]
Marmaton River:					
Nevada, MO	[illegible]	Jun [illegible]	[illegible]	[illegible]	Jun [illegible]
Little Osage River:					
Horton, MO	[illegible]	Jun [illegible]	[illegible]	[illegible]	Jun [illegible]
Osage River:					
Schell City, MO	[illegible]	Jun 21	[illegible]	[illegible]	Jun [illegible]
Osceola, MO	22	Jun 18	[illegible]	25.14	1
Bagnell Dam, MO	660	Jun 19	[illegible]	660.6	[illegible]
OHIO BASIN					
Allegheny:					
Olean, NY	10	8	8	[illegible]	8
ALASKA					
Kenai:					
Cooper Landing	[illegible]	Jun 18	1	14.64	Aug [illegible]

River and station	Flood stage	Above flood stages —dates From	Above flood stages —dates To	Crest Stage	Crest Date
	Ft			Ft	

RAWINSONDE DATA

Average monthly values

JULY 1977

ALBANY, NY
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	86	18.0	15.1	20	.9
1000	[illegible]	154	18.1	14.0	24	1.4
950	31	586	17.9	12.3	26	3.9
900	31	1,048	15.5	10.4	28	6.6
850	31	1,531	12.9	6.8	28	8.5
800	31	2,039	10.3	1.1	28	9.0
750	31	2,574	8.0	-5.[illegible]	28	9.6
700	31	3,141	5.4	-8.3	28	11.0
650	31	3,744	2.3	-10.7	28	12.5
600	31	4,386	-1.5	-13.9	28	12.9
550	31	5,074	-5.5	-17.9	28	13.7
500	31	5,816	-9.8	-22.4	28	13.2
450	31	6,621	-15.0	-27.6	28	14.4
400	31	7,501	-21.1	-33.2	29	15.8
350	31	8,476	-27.9	-40.7	29	18.6
300	31	9,562	-36.2	-48.3	29	21.0
250	30	10,803	-45.2		29	23.0
200	30	12,264	-53.6		29	25.6
175	30	13,115	-57.6		29	22.7
150	30	14,080	-60.7		29	19.6
125	30	15,210	-62.4		28	12.6
100	30	16,590	-61.1		29	7.7
80	29	17,986	-58.1		32	2.1
70	29	18,831	-56.3		03	1.1
60	29	19,813	-55.2		07	3.5
50	29	20,982	-53.7		09	6.4
40	28	22,423	-51.8		09	7.9
30	28	24,301	-49.0		09	10.0
25	27	25,500	-47.4		09	11.7
20	27	26,983	-45.0		09	13.4
15	26	28,918	-41.7		09	15.7
10	14	31,717	-36.1			
7						
5						

ALBUQUERQUE, NM
841 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,619	19.5	11.0	12	1.6
1000						
950						
900						
850						
800	30	2,052	18.7	8.0	17	1.8
750	30	2,603	15.[illegible]	4.9	21	2.[illegible]
700	30	3,185	11.8	2.3	22	2.5
650	30	3,802	7.3	-.3	25	2.5
600	30	4,455	2.2	-3.0	24	2.3
550	30	5,152	-3.0	-7.2	22	2.0
500	30	5,900	-7.[illegible]	-15.1	22	1.9
450	30	6,713	-12.4	-23.1	22	2.4
400	30	7,604	-18.2	-30.3	22	2.8
350	30	8,591	-25.0	-37.9	23	3.3
300	30	9,689	-33.5	-44.4	24	4.0
250	30	10,943	-43.3		25	4.4
200	30	12,408	-54.7		24	5.1
175	30	13,251	-60.7		25	4.7
150	30	14,196	-66.7		24	4.4
125	30	15,286	-70.8		25	3.0
100	30	16,613	-68.7		12	1.[illegible]
80	30	17,964	-63.8		10	3.8
70	30	18,789	-61.4		09	5.9
60	30	19,749	-59.5		09	7.4
50	30	20,897	-57.2		09	9.5
40	30	22,317	-54.6		09	11.8
30	29	24,173	-51.3		09	12.3
25	29	25,364	-49.2		09	14.[illegible]
20	29	26,836	-46.7		09	15.7
15	28	28,758	-43.6		09	18.1
10	25	31,513	-38.6		09	22.9
7	17	33,982	-34.8		09	25.3
5	5	36,325	-30.7			

AMARILLO, TX
894 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,095	20.9	14.4	19	3.6
1000						
950						
900						
850	31	1,531	22.0	11.8	21	10.4
800	31	2,056	19.2	9.4	22	[illegible].7
750	31	2,608	15.7	6.3	23	5.2
700	31	3,190	11.3	3.4	25	3.1
650	31	3,805	7.0	-1.9	21	1.3
600	31	4,458	2.5	-8.[illegible]	19	1.6
550	31	5,157	-1.7	-15.[illegible]	20	1.6
500	31	5,908	-6.4	-21.4	20	1.8
450	31	6,724	-11.7	-26.[illegible]	20	2.5
400	31	7,616	-17.8	-33.[illegible]	22	2.[illegible]
350	31	8,605	-24.5	-39.2	21	1.7
300	31	9,706	-32.8	-45.6	21	1.[illegible]
250	31	10,963	-42.8		25	2.1
200	31	12,432	-54.1		27	1.4
175	31	13,276	-60.3		25	1.3
150	31	14,224	-66.2		23	1.7
125	31	15,316	-70.8		22	.[illegible]
100	30	16,642	-68.9		09	.7
80	30	17,994	-63.1		09	4.[illegible]
70	30	18,820	-61.2		09	[illegible].2
60	30	19,781	-59.4		09	7.3
50	30	20,931	-56.5		09	[illegible].6
40	30	22,355	-54.4		09	10.6
30	28	24,212	-51.3		09	13.1
25	28	25,403	-49.2		09	13.8
20	28	26,876	-46.4		09	15.1
15	28	28,799	-43.6		09	18.7
10	24	31,550	-38.4		09	23.2
7	14	34,018	-35.4		09	25.0
5						

* ANCHORAGE, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	45	14.4	10.4	17	2.7
1000	31	[illegible]	14.1	7.6	17	[illegible].4
950	31	557	12.6	5.0	18	3.5
900	31	1,009	9.9	2.9	14	2.1
850	31	1,481	6.7	1.2	11	2.7
800	31	1,977	3.2	-1.2	12	3.4
750	31	2,497	-.3	-4.8	12	3.9
700	31	3,046	-3.9	-9.3	12	3.5
650	31	3,627	-7.6	-13.4	13	3.9
600	31	4,246	-11.3	-19.4	13	3.8
550	31	4,909	-15.3	-23.9	13	3.2
500	31	5,623	-19.8	-29.5	14	2.6
450	31	6,397	-25.1	-34.5	14	2.5
400	31	7,241	-31.[illegible]	-39.3	15	2.1
350	31	8,176	-38.5	-44.1	18	1.0
300	30	9,217	-46.4		17	1.0
250	30	10,410	-52.4		26	1.2
200	30	11,861	-49.1		19	.9
175	30	12,739	-48.3		22	.9
150	30	13,755	-48.3		26	.5
125	30	14,956	-48.4		31	.4
100	30	16,425	-48.2		07	.6
80	30	17,897	-47.8		07	1.6
70	30	18,780	-47.3		08	1.9
60	30	19,801	-46.9		08	2.8
50	30	21,010	-46.4		08	3.4
40	30	22,494	-46.[illegible]		08	4.7
30	30	24,415	-44.7		08	6.1
25	30	25,639	-43.1		08	7.7
20	29	27,148	-41.1		08	8.4
15	28	29,124	-37.5		08	9.1
10	26	31,958	-32.2		09	12.1
7	15	34,503	-27.5			
5						

* ANNETTE, AK
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	37	11.4	10.0	14	1.5
1000	31	150	10.9	8.6	14	[illegible]
950	31	577	9.1	6.3	16	2.9
900	31	1,025	6.9	3.4	16	3.3
850	31	1,492	4.4	.1	16	3.6
800	31	1,984	1.9	-3.1	16	3.4
750	31	2,503	-.2	-7.9	17	2.7
700	31	3,053	-3.4	-11.4	18	2.5
650	31	3,635	-6.9	-15.6	20	3.0
600	31	4,256	-10.7	-20.3	20	[illegible]
550	31	4,919	-15.0	-25.7	20	3.1
500	31	5,633	-19.9	-31.0	19	3.8
450	31	6,406	-25.4	-35.[illegible]	20	4.1
400	31	7,250	-31.8	-41.3	21	4.6
350	31	8,184	-38.5	-42.1	23	4.9
300	31	9,225	-45.5		25	5.1
250	31	10,422	-52.1		26	7.0
200	31	11,865	-50.6		26	[illegible].3
175	31	12,738	-49.7		25	6.3
150	30	13,753	-49.8		26	5.9
125	30	14,945	-50.4		26	4.9
100	29	16,395	-50.4		26	3.[illegible]
80	29	17,851	-50.2		25	2.1
70	29	18,724	-49.9		23	1.1
60	29	19,733	-49.7		16	.5
50	29	20,928	-49.3		09	1.[illegible]
40	29	22,394	-48.7		09	3.6
30	28	24,294	-46.9		08	5.9
25	28	25,506	-45.6		09	7.[illegible]
20	27	27,001	-43.3		09	8.4
15	27	28,952	-40.1		09	10.4
10	24	31,743	-35.5		09	12.7
7	15	34,238	-31.0		09	13.9
5						

ATHENS, GA
990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	246	21.7	19.6	29	.2
1000						
950	31	608	23.[illegible]	18.3	27	2.0
900	31	1,080	21.3	15.3	26	1.9
850	31	1,573	18.0	12.7	25	1.6
800	31	2,090	14.7	9.2	25	1.7
750	31	2,634	11.6	4.1	25	1.8
700	31	3,208	8.1	-.3	26	1.2
650	31	3,817	4.6	-4.4	28	.3
600	31	4,465	.9	-10.[illegible]	35	.6
550	31	5,159	-3.0	-15.8	02	.8
500	31	5,909	-7.1	-19.0	03	.6
450	31	6,723	-11.9	-25.5	03	1.1
400	31	7,615	-17.9	-32.5	01	1.3
350	31	8,603	-24.9	-38.8	01	2.2
300	31	9,702	-33.4	-46.4	36	3.2
250	31	10,957	-43.2		01	3.8
200	31	12,421	-55.0		35	3.6
175	31	13,263	-61.1		36	3.3
150	31	14,207	-66.7		01	4.7
125	31	15,300	-70.0		04	3.5
100	31	16,629	-68.6		06	2.9
80	31	17,978	-64.8		07	5.6
70	31	18,797	-62.4		08	7.3
60	31	19,756	-59.5		08	9.4
50	31	20,906	-56.3		09	10.7
40	31	22,332	-53.8		09	11.9
30	31	24,194	-50.[illegible]		09	13.0
25	31	25,385	-49.[illegible]		09	13.8
20	30	26,858	-46.9		09	15.9
15	27	28,780	-43.2		09	19.1
10	19	31,537	-38.7		09	21.8
7	6	34,027	-36.2			
5						

* BARROW, AK
1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	8	1.7	.7	07	4.6
1000	31	173	5.9	2.2	09	6.8
950	31	597	[illegible].6	-2.3	10	6.7
900	31	1,045	8.[illegible]	-4.3	09	5.6
850	31	1,515	6.0	-6.6	09	5.2
800	31	2,009	3.3	-8.8	09	4.[illegible]
750	31	2,530	.2	-11.2	08	4.2
700	31	3,080	-3.1	-15.4	08	3.9
650	31	3,663	-6.5	-17.8	07	3.5
600	31	4,284	-10.3	-21.3	06	2.9
550	31	4,949	-14.4	-26.3	05	3.4
500	31	5,665	-19.3	-29.5	05	3.8
450	31	6,440	-24.7	-35.3	04	3.8
400	31	7,287	-31.1	-41.7	04	3.[illegible]
350	31	8,222	-38.3	-46.8	04	4.4
300	31	9,263	-45.5		05	4.4
250	31	10,460	-52.0		04	4.1
200	31	11,908	-49.1		04	3.0
175	31	12,788	-47.5		04	3.0
150	31	13,809	-47.1		04	2.7
125	31	15,017	-46.9		05	2.9
100	30	16,498	-46.[illegible]		06	3.2
80	30	17,983	-45.4		06	3.5
70	28	18,878	-44.6		07	4.0
60	28	19,911	-44.[illegible]		07	4.2
50	28	21,135	-43.7		07	4.7
40	28	22,636	-43.4		07	5.2
30	26	24,574	-42.3		07	5.7
25	24	25,810	-41.1		08	6.2
20	14	27,335	-38.6			
15						
10						
7						
5						

BARTER ISLAND, AK
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	15	2.0	1.3	08	3.[illegible]
1000	31	153	4.3	2.8	09	[illegible]
950	31	575	8.4	-1.6	10	6.3
900	31	1,022	7.6	-4.[illegible]	09	4.3
850	31	1,490	5.2	-6.9	09	2.8
800	31	1,983	2.5	-9.9	07	1.7
750	31	2,502	-.5	-13.4	02	1.4
700	31	3,050	-4.1	-16.8	01	2.0
650	31	3,630	-7.7	-20.[illegible]	02	2.4
600	31	4,249	-11.4	-24.7	02	[illegible].7
550	31	4,910	-15.9	-27.4	02	3.4
500	31	5,622	-20.8	-33.[illegible]	02	4.1
450	31	[illegible],392	-26.1	-37.7	02	4.7
400	31	7,234	-32.4	-42.6	02	5.4
350	31	8,165	-39.3	-45.2	02	6.1
300	31	9,201	-46.4		02	6.[illegible]
250	31	10,397	-51.2		02	7.3
200	31	11,856	-48.0		01	5.4
175	31	12,740	-46.9		01	4.1
150	31	13,762	-46.9		02	3.9
125	31	14,970	-46.9		03	3.9
100	31	16,450	-46.4		05	3.7
80	31	17,935	-45.6		06	3.4
70	31	18,827	-45.0		06	3.6
60	31	19,859	-44.5		06	4.[illegible]
50	31	21,082	-43.9		07	5.0
40	31	22,580	-43.9		08	4.9
30	31	24,516	-42.6		07	5.[illegible]
25	31	25,750	-41.7		07	6.8
20	31	27,269	-39.8		08	7.6
15	29	29,250	-36.5		08	7.9
10	24	32,087	-31.5		09	9.1
7	8	34,620	-27.1			
5						

BETHEL, AK
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	39	10.7	8.9	22	.7
1000	29	124	11.7	8.2	22	1.0
950	31	545	10.2	5.3	17	1.6
900	31	992	7.4	3.4	17	2.7
850	31	1,461	4.6	-.3	15	3.8
800	31	1,953	1.9	-4.1	15	4.2
750	31	2,471	-.7	-8.2	13	4.2
700	31	3,020	-3.5	-13.0	13	4.3
650	31	3,603	-6.6	-18.2	12	4.2
600	31	4,224	-10.2	-22.7	12	4.2
550	31	4,889	-14.6	-26.2	12	4.7
500	31	5,604	-19.3	-31.6	12	5.3
450	31	6,380	-24.4	-36.0	12	5.2
400	31	7,227	-30.7	-41.0	12	5.4
350	31	8,164	-37.8	-44.4	13	5.8
300	31	9,205	-45.9		13	6.1
250	31	10,401	-51.7		14	4.3
200	31	11,857	-48.2		16	2.3
175	31	12,739	-47.5		17	1.3
150	31	13,758	-47.5		23	.6
125	31	14,961	-48.2		19	.3
100	31	16,432	-48.3		12	.8
80	31	17,903	-47.8		08	1.4
70	31	18,786	-47.5		10	2.2
60	31	19,805	-47.3		10	3.2
50	31	21,013	-46.8		09	3.9
40	31	22,494	-46.3		09	4.5
30	31	24,409	-45.3		09	5.8
25	27	25,627	-43.[illegible]		09	6.5
20	27	27,133	-41.8		09	7.8
15	24	29,100	-38.5		10	9.4
10	16	31,924	-32.8		10	11.0
7						
5						

* BISMARCK, ND
955 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	503	15.7	12.1	13	.1
1000						
950	23	573	16.0	11.[illegible]	12	.7
900	31	1,012	18.7	[illegible].3	22	2.4
850	31	1,501	17.1	5.6	25	3.8
800	31	2,016	14.1	2.6	26	5.4
750	31	2,558	10.6	-.4	26	7.0
700	31	3,129	6.7	-3.6	26	[illegible].6
650	31	[illegible],734	2.9	-7.4	27	10.2
600	31	4,378	-1.5	-11.[illegible]	27	11.9
550	31	5,065	-6.1	-16.6	27	13.[illegible]
500	31	5,804	-11.0	-22.9	27	14.4
450	31	[illegible],606	-16.2	-28.1	26	15.5
400	31	7,482	-22.3	-34.4	27	18.0
350	31	8,452	-29.3	-40.7	27	21.3
300	31	[illegible],531	-37.8	-46.1	26	23.6
250	31	10,763	-47.1		26	26.2
200	31	12,211	-55.1		26	28.7
175	31	13,060	-57.3		26	27.3
150	31	14,030	-59.1		26	21.[illegible]
125	31	15,170	-60.1		27	15.8
100	31	16,563	-59.8		26	8.7
80	30	17,964	-57.3		27	3.8
70	30	18,811	-56.0		29	1.6
60	29	19,795	-54.6		06	[illegible].0
50	29	20,967	-53.1		08	3.2
40	29	22,411	-51.5		08	[illegible].2
30	28	24,293	-48.4		09	7.7
25	27	25,495	-47.0		09	[illegible].3
20	24	26,977	-45.1		09	10.0
15	20	28,918	-41.2		09	11.6
10	12	31,695	-35.7		[illegible]	14.5
7	[illegible]	34,193	-31.0			
5	5	36,565	-27.5			

BOISE, ID
915 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	871	16.0	4.9	14	1.2
1000						
950						
900	31	1,016	18.6	5.1	09	.3
850	31	1,507	18.7	2.3	33	1.8
800	31	2,025	15.3	-.4	30	2.7
750	31	2,568	11.5	-2.9	28	3.9
700	31	3,139	7.4	-5.2	25	6.3
650	31	3,745	[illegible].0	-7.5	26	8.4
600	31	4,389	-1.5	-11.1	25	10.8
550	31	5,076	-6.3	-17.1	25	12.8
500	31	5,814	-11.3	-22.8	24	15.4
450	31	6,615	-16.8	-29.[illegible]	24	16.2
400	31	7,488	-23.1	-34.0	24	17.1
350	31	8,455	-30.5	-40.6	24	19.5
300	31	9,529	-38.9	-49.2	24	21.6
250	31	10,755	-48.0		23	23.9
200	31	12,201	-55.5		23	27.0
175	31	13,049	-57.1		24	26.3
150	31	14,022	-58.1		24	21.9
125	31	15,166	-59.7		25	14.4
100	31	16,560	-60.3		24	8.1
80	31	17,956	-58.3		22	2.9
70	31	18,799	-57.0		18	1.4
60	31	19,779	-55.[illegible]		11	2.7
50	31	20,944	-54.1		09	4.5
40	30	22,380	-52.6		09	6.1
30	29	24,251	-49.9		09	8.9
25	29	25,449	-47.8		09	10.2
20	27	26,928	-45.[illegible]		09	11.8
15	24	28,862	-41.[illegible]		09	14.7
10	17	31,655	-37.3		09	16.4
7	6	34,141	-31.8			

BOOTHVILLE, LA
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1	26.[illegible]	23.6	16	.3
1000	30	155	26.4	22.8	19	.6
950	30	607	23.1	20.0	19	1.2
900	30	1,078	20.3	15.7	16	1.3
850	30	1,570	17.2	12.2	15	1.8
800	30	2,086	14.5	7.6	14	2.4
750	30	2,630	11.5	3.4	13	2.[illegible]
700	30	3,203	8.0	-1.5	12	2.7
650	30	3,812	4.8	-4.9	12	2.[illegible]
600	30	4,461	1.2	-10.7	11	1.6
550	30	5,156	-2.8	-14.3	09	1.[illegible]
500	30	5,905	-7.1	-21.1	08	2.3
450	30	6,720	-11.[illegible]	-26.8	08	2.[illegible]
400	29	7,611	-18.[illegible]	-31.5	07	3.8
350	29	8,599	-24.8	-37.5	08	4.3
300	29	9,699	-33.1	-45.1	08	7.0
250	29	10,954	-43.4		07	[illegible].0
200	29	12,418	-54.8		08	9.3
175	29	13,260	-60.8		08	9.6
150	29	14,206	-66.2		08	[illegible].5
125	29	15,300	-70.2		08	9.3
100	29	16,624	-69.4		08	7.1
80	29	17,970	-65.3		09	8.[illegible]
70	29	18,788	-62.9		09	10.3
60	29	19,743	-60.[illegible]		09	12.7
50	29	20,888	-57.4		09	14.1
40	29	22,306	-55.[illegible]		09	14.3
30	28	24,155	-51.[illegible]		09	16.[illegible]
25	27	25,343	-50.0		09	17.2
20	27	26,811	-47.6		09	19.2
15	25	28,726	-43.6		09	23.1
10	18	31,485	-39.1		09	27.[illegible]
7						

* BROWNSVILLE, TX
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	7	24.6	22.[illegible]	16	1.[illegible]
1000	30	138	25.6	24.2	17	4.9
950	30	589	22.6	20.7	17	9.9
900	30	1,060	20.9	12.9	17	10.0
850	30	1,553	18.3	8.2	17	[illegible].2
800	30	2,071	15.5	4.0	16	6.5
750	30	2,615	12.2	1.3	15	5.1
700	30	3,190	8.6	-1.1	13	4.5
650	30	3,800	5.4	-6.1	12	4.[illegible]
600	30	4,450	1.7	-11.2	11	4.3
550	30	5,146	-2.5	-16.8	10	4.5
500	30	5,895	-7.4	-21.8	09	[illegible].3
450	30	6,708	-12.7	-26.7	09	3.7
400	30	7,596	-18.9	-31.1	09	4.1
350	30	8,580	-26.0	-38.4	09	4.4
300	30	9,674	-34.5	-47.7	09	[illegible].8
250	30	10,922	-44.5		09	7.[illegible]
200	30	12,379	-56.0		08	8.9
175	30	13,217	-61.8		08	9.3
150	30	14,158	-67.5		08	[illegible].2
125	30	15,245	-71.2		08	7.[illegible]
100	28	16,568	-70.5		09	[illegible].2
80	27	17,903	-67.6		09	10.0
70	27	18,712	-65.1		09	11.3
60	27	19,658	-62.2		09	12.[illegible]
50	27	20,794	-59.0		09	15.5
40	26	22,201	-56.7		09	18.2
30	26	24,040	-52.8		09	20.[illegible]
25	25	25,225	-49.9		09	20.[illegible]
20	25	26,695	-47.1		09	20.5
15	25	28,610	-44.5		09	23.[illegible]
10	17	31,351	-38.7		09	29.5
7						

BUFFALO, NY
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	218	18.7	15.9	22	2.6
1000						
950	31	585	18.8	14.4	25	5.8
900	31	1,049	16.8	11.9	28	7.0
850	31	1,535	14.1	8.3	28	7.8
800	31	2,045	11.4	3.6	28	8.8
750	31	2,582	8.3	-1.2	28	9.9
700	31	3,150	5.9	-6.9	28	11.7
650	31	3,754	2.7	-11.0	28	12.6
600	31	4,397	-1.2	-14.7	28	12.9
550	31	5,086	-5.3	-18.8	28	13.1
500	31	5,829	-9.4	-22.9	29	14.1
450	31	6,635	-14.4	-28.6	29	14.6
400	30	7,515	-20.[illegible]	-34.2	29	16.1
350	30	8,492	-27.[illegible]	-40.3	29	17.2
300	30	9,580	-35.8	-47.4	29	19.3
250	30	10,823	-45.0		29	22.8
200	30	12,284	-53.9		29	22.8
175	30	13,134	-57.8		29	21.3
150	28	14,100	-60.7		29	19.3
125	27	15,227	-62.3		29	15.2
100	27	16,606	-61.2		29	11.3
80	25	17,997	-58.5		30	4.0
70	25	18,839	-57.3		35	2.0
60	25	19,818	-55.4		05	2.9
50	25	20,987	-53.8		09	5.8
40	25	22,430	-51.4		09	7.4
30	25	24,309	-48.8		09	9.6
25	23	25,513	-46.9		09	10.3
20	20	26,998	-44.8		08	12.2
15	16	28,930	-41.3		09	15.2
10	7	31,697	-36.6			
7						

CAPE HATTERAS, NC
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	4	24.9	22.1	25	.7
1000	30	162	25.1	21.3	26	1.7
950	30	613	22.9	17.6	28	3.6
900	30	1,083	19.9	14.0	29	3.4
850	30	1,574	16.9	10.1	29	4.[illegible]
800	30	2,090	14.2	5.6	29	4.2
750	30	2,632	11.4	.0	28	4.5
700	30	[illegible],206	8.2	-4.5	29	4.8
650	30	[illegible],814	4.9	-9.0	29	5.4
600	30	4,463	1.3	-14.1	30	5.4
550	30	5,158	-2.9	-17.4	30	5.2
500	30	5,907	-7.4	-21.[illegible]	29	5.0
450	30	6,720	-12.4	-26.2	29	4.2
400	30	7,610	-18.0	-32.7	31	4.7
350	30	8,597	-25.1	-38.2	32	6.1
300	30	9,695	-33.6	-47.3	33	5.9
250	29	10,952	-43.4		34	6.1
200	29	12,417	-54.4		35	6.9
175	29	13,261	-60.1		35	6.7
150	28	14,211	-66.4		34	5.9
125	28	15,305	-69.5		35	[illegible].3
100	28	16,642	-67.2		02	1.0
80	27	17,999	-63.4		08	4.0
70	26	18,823	-61.3		08	5.5
60	26	19,783	-59.5		08	7.8
50	26	20,932	-56.8		09	10.9
40	26	22,356	-53.9		09	12.7
30	26	24,217	-51.0		09	14.1
25	23	25,402	-48.9		09	14.5
20	19	26,877	-46.3		09	15.2
15	17	28,798	-43.3		09	19.[illegible]
10	11	31,554	-38.6			
7	5	33,986	-35.4			

RAWINSONDE DATA

Average monthly values

JULY 1977

• CARIBOU, ME
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	191	14.8	11.6	25	1.8
1000						
950	31	546	14.7	8.8	29	5.9
900	31	1,002	12.[illegible]	6.0	29	7.5
850	31	1,480	9.7	3.2	29	8.2
800	31	1,982	7.0	.5	28	9.7
750	31	2,510	4.5	-4.9	28	11.8
700	31	3,070	1.7	-9.1	28	12.7
650	31	3,664	-1.3	-14.8	28	14.3
600	31	4,298	-4.6	-18.3	28	16.0
550	31	4,978	-8.6	-21.4	28	17.0
500	31	5,710	-13.2	-26.7	28	17.8
450	30	6,506	-18.5	-31.1	28	18.0
400	30	7,374	-24.6	-37.4	28	19.0
350	30	8,335	-32.0	-43.4	28	19.5
300	29	9,409	-39.7	-47.2	28	22.2
250	29	10,638	-46.4		29	25.2
200	29	12,099	-51.9		28	25.2
175	29	12,962	-53.2		28	23.1
150	29	13,951	-55.4		28	19.[illegible]
125	29	15,112	-55.3		28	15.0
100	29	16,536	-55.3		28	8.5
80	29	17,962	-54.3		27	3.4
70	29	18,822	-52.6		27	1.4
60	29	19,818	-52.4		11	.7
50	29	21,000	-51.3		10	2.7
40	29	22,456	-49.7		09	5.7
30	29	24,348	-47.4		09	8.3
25	28	25,555	-45.4		09	9.7
20	28	27,053	-42.9		09	11.2
15	25	29,004	-39.[illegible]		09	13.3
10	13	31,813	-34.5			
7						

CENTREVILLE, AL
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	140	22.0	21.1	05	.2
1000	27	162	22.2	21.0	09	.1
950	31	608	23.7	18.5	25	1.[illegible]
900	31	1,080	21.4	15.8	25	2.1
850	31	1,574	17.9	13.3	23	1.8
800	31	2,091	14.7	8.[illegible]	21	1.2
750	31	2,634	11.4	4.1	21	1.3
700	31	3,208	7.9	.3	20	1.3
650	31	3,817	4.4	-2.4	15	1.4
600	31	4,464	.3	-5.5	11	1.1
550	31	5,158	-3.3	-11.8	11	1.3
500	31	5,906	-7.5	-18.4	11	1.4
450	31	6,720	-12.0	-24.7	11	1.6
400	31	7,612	-17.[illegible]	-31.2	10	2.[illegible]
350	31	8,600	-24.7	-39.2	08	[illegible].2
300	31	9,700	-33.3	-46.[illegible]	05	1.7
250	31	10,954	-43.4		05	3.2
200	30	12,419	-55.1		04	4.0
175	30	13,261	-61.1		03	4.4
150	30	14,204	-67.1		04	5.0
125	30	15,294	-70.6		05	4.[illegible]
100	30	16,617	-69.7		07	3.[illegible]
80	30	17,962	-65.1		08	5.7
70	30	18,781	-62.4		08	7.3
60	30	19,738	-60.1		09	9.1
50	30	20,883	-57.3		09	10.3
40	30	22,305	-54.2		09	10.5
30	30	24,160	-51.[illegible]		09	12.2
25	30	25,347	-50.3		09	14.6
20	30	26,813	-47.5		09	16.[illegible]
15	28	28,727	-44.1		09	19.[illegible]
10	24	31,482	-38.[illegible]		10	21.2
7	9	33,916	-36.2			

CHARLESTON, SC
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	13	23.9	21.8	28	.9
1000	31	165	24.7	21.[illegible]	27	2.2
950	31	616	23.7	17.5	28	3.3
900	31	1,088	21.1	14.4	29	2.6
850	31	1,581	17.7	12.3	32	1.7
800	31	2,098	14.4	8.3	33	1.0
750	31	2,641	11.5	3.1	28	.7
700	31	3,215	8.0	-1.8	30	1.4
650	31	3,823	4.7	-7.2	30	1.4
600	31	4,472	1.1	-11.8	28	.8
550	31	5,167	-2.6	-16.7	25	.4
500	31	5,917	-6.9	-22.[illegible]	06	.2
450	31	6,731	-11.9	-27.0	02	.[illegible]
400	31	7,622	-18.0	-32.[illegible]	02	2.4
350	31	8,610	-24.8	-38.6	03	[illegible].0
300	31	9,710	-33.2	-45.9	03	3.6
250	30	10,963	-43.3		03	4.2
200	30	12,427	-55.0		03	5.0
175	30	13,269	-61.0		03	5.0
150	30	14,213	-66.5		04	[illegible].2
125	30	15,306	-70.2		06	5.1
100	30	16,635	-69.0		07	3.0
80	30	17,986	-64.4		07	5.2
70	30	18,806	-62.7		08	7.[illegible]
60	30	19,763	-60.1		08	10.3
50	30	20,910	-56.9		09	12.2
40	30	22,335	-53.7		09	13.2
30	29	24,200	-50.5		09	13.4
25	27	25,395	-49.4		09	14.6
20	26	26,867	-46.4		09	16.0
15	23	28,794	-43.0		09	20.3
10	19	31,564	-38.4		09	25.4
7						

CHATHAM, MA
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	16	19.1	16.5	25	1.9
1000	31	145	19.6	14.4	26	2.9
950	31	587	19.1	9.9	29	4.1
900	31	1,050	16.4	7.6	29	4.6
850	31	1,534	13.1	4.0	29	5.8
800	31	2,042	10.8	-.3	28	6.9
750	31	2,578	8.1	-3.9	28	9.0
700	31	3,144	5.2	-7.4	28	10.3
650	31	3,746	2.0	-10.9	28	11.[illegible]
600	31	4,388	-1.3	-13.9	28	12.6
550	31	5,078	-5.1	-17.5	28	13.4
500	31	5,820	-9.9	-22.3	28	13.5
450	31	6,625	-15.0	-27.1	28	13.8
400	31	7,506	-21.1	-32.8	28	15.3
350	31	8,480	-28.1	-39.1	28	16.[illegible]
300	31	9,566	-36.2	-47.7	28	18.1
250	31	10,807	-45.3		29	19.[illegible]
200	31	12,266	-54.4		29	21.2
175	31	13,114	-58.1		29	21.6
150	31	14,077	-62.1		29	16.7
125	31	15,199	-63.5		29	12.8
100	30	16,577	-62.0		28	7.4
80	29	17,966	-59.5		31	2.[illegible]
70	28	18,806	-58.0		02	1.1
60	28	19,781	-56.4		08	2.[illegible]
50	28	20,943	-54.7		09	5.1
40	28	22,379	-52.4		09	7.2
30	27	24,251	-50.0		09	[illegible].3
25	25	25,447	-48.4		09	10.[illegible]
20	21	26,921	-46.0		09	13.3
15	18	28,842	-41.9		09	16.2
10	16	31,611	-37.4		09	17.3
7						

CHIHUAHUA, MEXICO
860 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,428	18.7	15.4	23	.5
1000						
950						
900						
850	30	1,530	19.1	12.5	24	.8
800	30	2,052	17.8	9.4	20	.4
750	30	2,601	14.3	6.8	15	2.1
700	30	3,180	10.3	4.3	15	2.8
650	30	3,793	5.6	1.9	12	2.5
600	30	4,444	1.2	-3.4	09	4.4
550	30	5,139	-3.0	-9.4	10	5.4
500	30	5,889	-7.2	-15.4	10	5.2
450	30	6,703	-12.1	-21.3	10	4.8
400	30	7,594	-17.9	-28.2	10	4.2
350	30	8,582	-24.8	-34.[illegible]	08	4.2
300	30	9,682	-33.2	-42.7	06	4.8
250	30	10,937	-43.1		05	6.0
200	30	12,401	-55.1		06	7.3
175	29	13,244	-60.7		06	7.9
150	29	14,189	-67.0		06	7.9
125	29	15,277	-71.1		08	6.6
100	28	16,597	-70.2		08	5.4
80	26	17,933	-67.0		09	7.5
70	26	18,745	-64.6		09	9.5
60	26	19,694	-61.5		09	11.7
50	25	20,832	-58.9		09	13.0
40	23	22,240	-56.4		09	14.1
30	23	24,079	-53.5		09	17.0
25	22	25,259	-51.0		09	17.8
20	20	26,722	-48.4		09	17.0
15	19	28,627	-45.9		08	21.0
10	9	31,338	-41.4			
7						

• COLD BAY, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	30	10.3	7.8	20	1.5
1000	27	133	9.0	7.3	22	1.6
950	30	539	7.2	4.5	20	2.2
900	30	983	5.4	.5	19	1.2
850	30	1,448	3.2	-2.3	21	.5
800	30	1,938	1.0	-4.1	25	.9
750	30	2,455	-1.3	-8.1	26	1.7
700	30	3,003	-3.9	-12.0	26	2.6
650	30	3,585	-6.7	-16.9	27	3.6
600	30	4,206	-10.3	-19.7	27	5.0
550	29	4,870	-14.2	-23.9	26	5.9
500	29	5,586	-19.1	-31.7	26	7.1
450	29	6,362	-24.1	-37.9	27	[illegible].4
400	29	7,211	-29.9	-42.0	27	11.[illegible]
350	28	8,155	-36.3	-45.8	27	13.8
300	28	9,207	-42.8	-48.6	27	17.5
250	28	10,422	-48.4		27	20.6
200	28	11,886	-48.7		27	15.[illegible]
175	26	12,761	-48.4		27	12.[illegible]
150	26	13,775	-49.2		27	10.2
125	26	14,969	-50.2		27	7.3
100	26	16,425	-50.3		27	4.5
80	26	17,881	-50.2		29	2.0
70	26	18,754	-49.8		31	.9
60	26	19,764	-49.5		06	1.3
50	26	20,959	-48.9		08	[illegible].7
40	26	22,428	-48.1		08	4.5
30	25	24,329	-46.[illegible]		09	6.2
25	25	25,541	-45.5		09	7.4
20	24	27,035	-43.3		08	8.3
15	19	28,992	-40.2		08	[illegible].6
10	11	31,787	-35.5			

DAYTON, OH
984 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	299	20.7	17.7	24	.9
1000						
950	31	600	22.2	16.3	27	[illegible].2
900	31	1,069	19.6	13.4	29	5.1
850	31	1,560	16.6	9.3	28	5.3
800	31	2,074	13.9	3.9	28	6.0
750	31	2,616	11.2	-.7	28	7.1
700	31	3,189	7.[illegible]	-4.0	28	[illegible].1
650	31	3,796	4.1	-9.0	29	[illegible].[illegible]
600	31	4,443	.3	-12.4	29	9.[illegible]
550	31	5,136	-3.6	-17.3	29	[illegible].8
500	31	5,883	-7.9	-22.[illegible]	29	[illegible].9
450	31	6,695	-12.7	-28.3	29	11.4
400	31	7,584	-18.9	-33.4	29	12.[illegible]
350	31	8,568	-25.7	-39.6	30	14.[illegible]
300	31	9,664	-34.1	-46.4	30	15.4
250	31	10,915	-43.[illegible]		30	18.6
200	31	12,377	-55.0		30	17.3
175	30	13,225	-60.1		30	16.8
150	30	14,175	-65.1		30	14.8
125	30	15,278	-67.[illegible]		31	[illegible].4
100	30	16,628	-65.1		32	3.2
80	27	17,997	-62.3		05	2.5
70	27	18,827	-59.7		07	4.0
60	27	19,797	-57.6		08	[illegible].2
50	26	20,957	-54.9		09	8.5
40	24	22,392	-53.0		09	9.7
30	23	24,262	-50.[illegible]		09	11.[illegible]
25	23	25,458	-48.4		10	12.3
20	23	26,936	-45.[illegible]		09	14.7
15	22	28,869	-42.[illegible]		10	17.[illegible]
10	16	31,657	-37.0		10	19.1

DEL RIO, TX
979 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	314	24.6	20.4	10	3.8
1000						
950	31	577	23.4	19.[illegible]	14	7.7
900	31	1,049	21.3	16.0	16	9.5
850	31	1,544	19.1	13.1	16	8.4
800	31	2,064	16.1	9.9	16	[illegible].7
750	31	2,610	13.1	4.5	15	[illegible].5
700	31	3,188	9.9	-1.[illegible]	14	4.5
650	31	3,800	6.2	-5.2	13	3.[illegible]
600	31	4,451	2.1	-10.0	13	2.9
550	31	5,148	-2.2	-14.7	12	2.5
500	31	5,899	-7.0	-21.2	11	3.6
450	31	6,713	-12.1	-26.2	10	[illegible].4
400	31	7,604	-18.0	-32.1	10	6.1
350	31	8,591	-24.8	-38.6	09	[illegible].5
300	31	9,691	-33.1	-46.[illegible]	09	5.2
250	31	10,947	-43.1		08	[illegible].8
200	31	12,413	-54.6		09	[illegible].4
175	31	13,256	-60.8		09	[illegible].[illegible]
150	31	14,200	-66.9		08	7.8
125	31	15,289	-71.0		09	7.4
100	31	16,610	-69.4		09	5.9
80	30	17,949	-66.4		09	7.3
70	29	18,762	-64.0		09	[illegible].4
60	29	19,712	-61.9		09	10.5
50	28	20,848	-59.5		09	13.[illegible]
40	28	22,257	-55.9		09	16.1
30	28	24,103	-52.5		09	17.0
25	28	25,287	-50.4		09	16.[illegible]
20	28	26,752	-48.0		09	17.[illegible]
15	28	28,661	-45.4		09	22.1
10	18	31,396	-40.4		09	26.0

DENVER, CO
841 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,611	17.0	9.8	20	1.6
1000						
950						
900						
850						
800	31	2,035	19.1	5.9	26	2.1
750	31	2,587	16.7	2.0	28	2.2
700	31	3,171	12.8	-1.3	28	3.2
650	31	3,789	[illegible].[illegible]	-3.8	27	4.0
600	31	4,444	2.9	-6.8	27	4.5
550	31	5,142	-2.5	-10.9	27	5.2
500	31	5,890	-8.2	-15.8	27	5.7
450	31	6,701	-13.4	-24.1	26	6.[illegible]
400	31	7,588	-19.3	-32.1	26	[illegible].[illegible]
350	31	8,570	-26.4	-39.4	25	10.7
300	31	9,663	-34.6	-45.8	25	13.1
250	31	10,911	-44.2		25	15.[illegible]
200	31	12,373	-54.8		25	18.[illegible]
175	31	13,216	-60.2		25	17.5
150	31	14,167	-64.[illegible]		25	14.6
125	31	15,272	-67.7		26	7.8
100	31	16,613	-66.6		24	3.5
80	31	17,980	-61.7		12	.9
70	31	18,812	-59.4		08	2.5
60	31	19,782	-57.8		09	5.2
50	31	20,938	-55.5		09	6.[illegible]
40	31	22,366	-53.7		09	[illegible].0
30	31	24,229	-50.7		09	10.6
25	30	25,422	-48.8		09	11.4
20	29	26,896	-46.3		09	13.0
15	25	28,827	-43.1		09	15.0
10	17	31,590	-38.1		09	19.1

DODGE CITY, KS
926 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	791	22.3	15.4	18	2.6
1000						
950						
900	30	1,035	22.9	14.6	20	7.3
850	30	1,533	21.7	10.7	22	9.5
800	30	2,057	18.9	8.4	23	6.9
750	30	2,609	15.3	4.[illegible]	22	4.9
700	30	3,189	11.0	1.3	22	3.6
650	30	3,804	6.6	-2.[illegible]	22	3.5
600	30	4,455	2.1	-8.8	23	3.3
550	30	5,152	-2.4	-12.8	23	3.7
500	30	5,902	-6.9	-18.8	24	3.6
450	30	[illegible],717	-12.0	-25.3	25	4.6
400	29	7,609	-17.7	-31.2	26	5.2
350	29	8,597	-25.0	-37.1	26	5.7
300	29	[illegible],695	-33.6	-45.0	26	6.3
250	29	10,949	-43.4		26	7.7
200	28	12,409	-54.9		26	7.3
175	28	13,252	-60.8		26	6.9
150	28	14,197	-66.4		26	6.9
125	28	15,290	-70.1		25	4.0
100	28	16,620	-68.3		22	1.9
80	28	17,978	-63.2		09	2.9
70	28	18,804	-60.7		09	4.6
60	26	19,769	-58.9		09	6.4
50	25	20,919	-56.3		09	7.6
40	23	22,345	-54.6		09	9.3
30	23	24,199	-51.5		09	11.4
25	22	25,389	-49.9		09	12.8
20	19	26,860	-46.7		09	13.4
15	15	28,785	-43.4		09	16.7
10	7	31,545	-38.9			

EL PASO, TX
883 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,193	21.9	14.0	14	.6
1000						
950						
900						
850	31	1,528	21.8	10.3	17	2.0
800	31	2,052	19.2	7.6	17	[illegible].1
750	31	2,604	15.6	5.6	17	2.1
700	31	3,186	11.2	2.7	15	1.7
650	31	3,800	6.5	-.1	13	1.6
600	31	4,452	1.5	-4.9	09	3.4
550	31	5,147	-3.3	-9.9	08	[illegible].8
500	31	5,895	-7.7	-17.9	10	4.6
450	31	6,708	-12.2	-24.1	12	4.4
400	31	7,599	-18.2	-31.4	12	3.0
350	30	8,585	-25.0	-36.4	09	1.5
300	30	9,683	-33.4	-44.2	03	1.9
250	30	10,937	-43.4		01	2.0
200	30	12,399	-55.3		04	2.0
175	30	13,239	-61.3		08	2.4
150	29	14,183	-67.6		07	2.6
125	29	15,268	-71.[illegible]		09	3.6
100	29	16,589	-69.5		09	2.6
80	29	17,931	-66.0		08	5.7
70	29	18,747	-63.1		09	7.[illegible]
60	29	19,701	-60.7		09	[illegible].9
50	29	20,844	-57.7		09	10.9
40	27	22,257	-56.0		09	12.8
30	27	24,105	-51.4		09	14.8
25	27	25,293	-50.2		09	15.8
20	26	26,757	-47.8		09	16.7
15	26	28,668	-44.8		09	20.2
10	24	31,411	-39.3		09	25.6
7	12	33,902	-33.7			

ELY, NV
812 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,908	11.8	.6	19	2.8
1000						
950						
900						
850						
800	31	2,037	16.9	2.6	18	2.3
750	31	2,587	16.3	-1.0	20	3.0
700	31	3,170	12.0	-3.9	23	4.[illegible]
650	31	3,785	7.0	-6.1	24	6.3
600	31	4,437	[illegible].7	-9.3	23	6.6
550	31	5,131	-3.[illegible]	-13.8	22	7.[illegible]
500	31	5,877	-8.9	-21.0	23	7.8
450	30	6,684	-14.3	-28.0	24	[illegible].7
400	30	7,566	-20.7	-32.8	24	10.9
350	30	8,542	-28.1	-40.6	23	13.[illegible]
300	29	9,625	-36.5	-47.6	23	17.3
250	29	10,864	-45.5		23	20.4
200	28	12,318	-54.9		23	24.5
175	28	13,164	-59.0		23	24.4
150	28	14,122	-62.8		24	20.0
125	27	15,238	-65.3		24	13.1
100	27	16,598	-64.5		23	5.3
80	26	17,972	-61.0		17	1.7
70	26	18,804	-59.4		12	2.9
60	26	19,774	-57.6		10	4.[illegible]
50	26	20,931	-55.7		09	[illegible].3
40	26	22,360	-53.4		09	8.2
30	26	24,223	-50.6		09	11.0
25	26	25,418	-48.4		09	11.9
20	24	26,897	-45.8		09	13.4
15	22	28,829	-42.0		09	15.9
10	14	31,597	-37.1			
7						

EMPALME, MEXICO
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	12	27.0	22.3	11	.9
1000	30	102	27.6	22.[illegible]	13	1.4
950	30	557	26.4	17.4	14	3.0
900	30	1,034	24.5	13.[illegible]	15	2.5
850	30	1,533	21.5	12.1	12	[illegible].9
800	30	2,056	18.1	10.0	08	1.[illegible]
750	30	2,606	14.2	8.2	08	2.5
700	30	3,185	10.3	4.5	08	2.7
650	30	3,799	6.4	1.6	07	2.7
600	30	4,452	1.9	-3.1	08	3.0
550	30	5,149	-2.2	-8.[illegible]	07	3.4
500	30	5,900	-6.9	-14.1	06	3.8
450	30	6,717	-11.3	-23.1	08	3.5
400	30	7,611	-17.0	-29.8	08	2.5
350	29	8,601	-24.0	-36.4	12	3.5
300	29	9,705	-32.5	-43.8	12	5.1
250	29	10,963	-42.6		12	[illegible].6
200	28	12,429	-54.8		13	[illegible].[illegible]
175	28	13,271	-61.2		13	5.5
150	28	14,214	-66.7		12	5.1
125	26	15,305	-70.4		11	4.2
100	21	16,634	-69.5		08	[illegible].3
80	20	17,977	-66.0		09	9.4
70	20	18,791	-63.9		10	10.6
60	20	19,742	-61.5		09	12.0
50	20	20,879	-59.0		09	13.4
40	20	22,289	-56.1		09	14.[illegible]
30	20	24,131	-53.3		09	17.3
25	19	25,312	-51.4		09	18.0
20	17	26,768	-48.9		09	20.6
15	10	28,678	-45.5		09	23.0
10						
7						

• FAIRBANKS, AK
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	135	13.6	7.2	36	2.1
1000	[illegible]	159	15.3	6.6		
950	31	542	15.1	4.3	08	2.[illegible]
900	31	998	12.5	1.8	13	1.3
850	31	1,474	8.8	-.4	14	.9
800	31	1,973	4.8	-2.5	17	1.1
750	31	2,495	.7	-5.0	18	1.4
700	31	3,045	-3.4	-8.7	17	1.3
650	31	3,628	-7.1	-13.5	16	.8
600	31	4,248	-11.0	-19.0	14	.4
550	31	4,911	-15.5	-24.6	14	.7
500	31	5,623	-20.2	-31.3	08	.[illegible]
450	31	6,396	-25.7	-37.1	03	1.1
400	31	7,238	-32.1	-43.0	04	.7
350	31	8,170	-39.2	-42.4	08	1.5
300	31	9,206	-47.2		06	1.[illegible]
250	30	10,398	-52.4		06	2.4
200	30	11,852	-48.8		02	.8
175	28	12,735	-48.3		04	1.8
150	28	13,750	-48.3		04	2.0
125	28	14,951	-48.1		05	2.2
100	28	16,422	-47.8		06	2.5
80	28	17,897	-47.0		06	3.0
70	27	18,782	-46.4		07	3.4
60	26	19,809	-46.1		07	3.6
50	26	21,024	-45.6		07	4.4
40	25	22,513	-45.0		08	5.3
30	21	24,445	-44.3		08	6.2
25	19	25,672	-42.9		08	7.4
20	19	27,185	-40.4		08	9.1
15	14	29,176	-37.3		08	8.6
10	7	32,035	-32.2			
7						

FLINT, MI
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	236	18.6	15.1	22	1.3
1000						
950	31	584	20.0	14.0	27	5.0
900	31	1,049	17.9	10.[illegible]	28	7.1
850	31	1,537	14.8	[illegible].1	28	7.2
800	31	2,048	12.2	1.5	29	8.3
750	31	2,587	10.1	-3.0	28	9.6
700	31	3,158	6.8	-6.5	28	9.9
650	31	3,763	3.1	-10.3	28	11.1
600	31	4,407	-.9	-14.[illegible]	28	12.2
550	31	5,096	-5.2	-18.8	28	13.5
500	31	5,838	-9.6	-23.3	28	14.4
450	30	6,642	-14.6	-27.7	28	15.6
400	30	7,524	-20.6	-32.9	28	16.9
350	30	8,502	-27.4	-39.4	28	18.6
300	30	9,591	-35.4	-46.0	29	21.0
250	30	10,835	-44.6		29	23.4
200	30	12,297	-54.4		29	25.4
175	30	13,145	-58.1		29	21.9
150	30	14,109	-61.5		29	18.4
125	30	15,232	-63.6		29	13.3
100	30	16,605	-62.0		29	7.0
80	30	17,993	-59.6		32	3.0
70	30	18,832	-57.9		01	2.1
60	30	19,809	-56.1		06	3.1
50	30	20,975	-53.5		08	5.2
40	29	22,415	-51.9		08	7.1
30	28	24,290	-49.6		09	9.5
25	27	25,488	-47.8		09	10.6
20	26	26,970	-46.9		09	12.2
15	19	28,897	-42.1		09	14.4
10	6	31,683	-36.0			
7						

RAWINSONDE DATA

Average monthly values

JULY 1977

GLASGOW, MT
934 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	696	14.1	[illegible].6	06	.5
1000						
950						
900	31	1,008	17.9	6.8	28	2.0
850	31	1,496	15.5	3.7	27	3.7
800	31	2,008	12.2	1.6	28	4.8
750	31	2,545	8.6	-.[illegible]	28	6.2
700	31	3,112	5.[illegible]	-4.4	28	7.5
650	31	3,714	1.3	-7.3	27	9.8
600	31	4,353	-3.1	-12.0	27	12.5
550	31	5,037	-7.0	-18.3	26	14.7
500	31	5,774	-12.0	-23.4	27	15.4
450	31	6,572	-17.4	-26.[illegible]	26	16.8
400	31	7,444	-23.7	-33.9	26	18.2
350	31	8,408	-30.6	-41.4	26	21.5
300	31	9,482	-39.1	-46.1	26	23.8
250	31	10,707	-48.1		26	27.6
200	31	12,156	-53.9		26	28.9
175	31	13,012	-54.9		26	25.8
150	31	13,993	-56.6		26	20.9
125	31	15,148	-57.4		26	16.3
100	31	16,559	-56.9		26	9.[illegible]
80	31	17,976	-55.6		26	4.5
70	31	18,830	-54.2		26	2.2
60	31	19,821	-53.4		09	.[illegible]
50	30	20,998	-52.3		09	2.1
40	30	22,446	-50.7		09	4.7
30	28	24,332	-48.2		09	7.3
25	28	25,538	-46.4		09	8.5
20	25	27,028	-43.9		09	9.5
15	23	28,972	-40.8		09	10.9
10	15	31,760	-35.8		09	13.2
7	7	34,283	-31.7			

GRAND JUNCTION, CO
854 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	1,472	20.7	6.0	11	2.4
1000						
950						
900						
850	31	1,513	21.3	5.7	12	2.7
800	31	2,038	20.0	4.4	16	[illegible].6
750	31	2,591	16.4	1.9	23	2.[illegible]
700	31	3,174	12.0	-.8	25	4.0
650	31	3,790	7.5	-3.2	25	5.3
600	31	4,444	2.[illegible]	-6.5	25	5.7
550	31	5,140	-3.1	-9.6	24	[illegible].4
500	31	5,888	-8.5	-16.4	24	6.4
450	31	6,698	-13.3	-25.5	25	8.2
400	31	7,585	-19.2	-32.5	25	9.6
350	31	8,567	-26.3	-39.6	25	11.2
300	31	9,661	-34.5	-47.4	25	13.9
250	31	10,910	-43.9		25	16.8
200	30	12,375	-54.1		25	18.3
175	30	13,222	-59.4		24	17.0
150	30	14,174	-64.6		25	15.3
125	30	15,279	-67.5		26	9.3
100	28	16,626	-65.9		24	3.[illegible]
80	26	17,995	-61.2		11	1.0
70	26	18,828	-59.7		10	3.2
60	25	19,797	-57.8		09	4.7
50	25	20,954	-55.6		09	6.3
40	25	22,383	-53.4		09	[illegible]
30	22	24,251	-50.3		09	11.1
25	22	25,445	-48.5		09	11.4
20	21	26,924	-46.1		09	13.0
15	19	28,849	-42.7		09	15.6
10	10	31,603	-38.2			
7						

* GREAT FALLS, MT
889 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	1,118	13.8	5.[illegible]	23	2.8
1000						
950						
900						
850	31	1,501	15.9	2.4	25	4.0
800	31	2,014	12.5	.0	26	4.2
750	31	2,551	8.4	-1.5	26	4.9
700	31	3,117	4.4	-4.1	25	7.2
650	31	3,717	.4	-6.[illegible]	25	[illegible].7
600	31	4,354	-3.8	-11.4	25	11.[illegible]
550	31	5,036	-8.0	-18.4	25	13.2
500	31	5,771	-12.6	-23.4	25	14.7
450	31	6,567	-17.9	-28.[illegible]	25	16.0
400	31	7,438	-24.2	-34.9	25	18.5
350	31	8,401	-31.3	-41.[illegible]	25	20.2
300	31	9,472	-39.6	-45.2	25	24.5
250	31	10,694	-48.9		25	26.4
200	31	12,136	-54.9		25	27.1
175	31	12,990	-55.2		25	25.1
150	30	13,966	-56.1		25	19.[illegible]
125	30	15,122	-57.0		25	14.6
100	30	16,535	-57.2		25	9.3
80	29	17,950	-55.8		25	4.2
70	29	18,802	-54.8		25	1.[illegible]
60	29	19,790	-53.8		11	1.3
50	28	20,963	-52.6		10	2.1
40	28	22,409	-51.4		09	4.[illegible]
30	27	24,290	-48.7		09	[illegible].9
25	27	25,493	-46.9		09	7.7
20	27	26,979	-44.9		09	[illegible]
15	25	28,918	-41.8		09	11.2
10	19	31,703	-36.3		09	11.[illegible]
7	7	34,204	-32.5			

GREEN BAY, WI
991 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	210	17.7	14.9	24	1.3
1000						
950	31	570	19.4	13.2	26	4.7
900	31	1,035	17.9	10.2	27	5.7
850	31	1,522	14.7	6.8	27	6.2
800	31	2,033	11.7	3.4	27	7.3
750	31	2,571	9.1	-2.8	27	8.7
700	31	3,140	[illegible].1	-6.5	28	9.8
650	31	3,744	[illegible].5	-9.8	28	10.8
600	31	4,386	-1.6	-12.7	28	11.[illegible]
550	31	5,073	-5.9	-17.4	28	13.0
500	30	5,811	-10.3	-23.9	28	13.7
450	30	6,615	-15.2	-28.0	28	14.5
400	30	7,495	-21.0	-34.0	28	16.7
350	29	8,471	-27.9	-40.5	28	18.[illegible]
300	29	[illegible],557	-36.0	-47.1	29	19.4
250	28	10,804	-45.0		29	22.7
200	27	12,260	-54.6		28	23.[illegible]
175	27	13,107	-57.9		28	22.8
150	27	14,073	-60.[illegible]		28	19.[illegible]
125	27	15,203	-62.5		28	14.[illegible]
100	27	16,581	-61.3		29	8.4
80	26	17,974	-58.[illegible]		30	3.[illegible]
70	26	18,815	-57.5		32	[illegible].1
60	26	19,793	-55.[illegible]		04	2.0
50	25	20,962	-53.6		07	3.3
40	25	22,404	-51.7		08	6.0
30	25	24,279	-49.[illegible]		08	7.7
25	24	25,481	-47.4		08	9.2
20	22	26,968	-44.5		09	10.3
15	21	28,906	-41.3		09	11.[illegible]
10	16	31,690	-36.3		09	15.0
7						

GREENSBORO, NC
988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	275	21.6	17.9	30	.7
1000						
950	31	613	23.4	16.1	31	2.2
900	31	1,085	21.3	13.4	32	2.8
850	31	1,577	17.7	11.4	31	3.1
800	31	2,094	14.4	8.[illegible]	30	3.7
750	31	2,637	11.8	.0	30	4.3
700	31	3,212	8.7	-4.1	29	4.4
650	31	3,821	5.2	-8.4	30	4.7
600	31	4,470	1.2	-12.0	29	4.5
550	31	5,165	-2.9	-16.9	30	4.1
500	31	5,914	-7.2	-22.[illegible]	29	4.4
450	31	6,728	-12.2	-27.7	31	4.4
400	31	7,618	-18.2	-34.2	31	5.2
350	31	8,604	-25.2	-40.2	32	5.0
300	31	9,702	-33.6	-46.5	31	6.1
250	31	10,955	-43.5		32	6.6
200	31	12,419	-54.6		32	7.2
175	31	13,263	-60.2		31	5.9
150	31	14,211	-66.0		32	5.5
125	31	15,307	-69.5		34	3.4
100	31	16,642	-67.6		36	1.4
80	31	17,999	-63.2		06	3.4
70	31	18,825	-61.1		08	4.9
60	31	19,787	-58.9		09	7.5
50	31	20,939	-56.2		09	9.3
40	31	22,367	-53.5		09	11.3
30	30	24,232	-50.3		10	12.4
25	29	25,427	-48.1		09	13.0
20	29	26,906	-45.8		09	14.6
15	28	28,833	-43.1		09	17.9
10	14	31,592	-38.9			
7						

* GUAM, MARIANA IS.
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	111	25.3	23.[illegible]	10	2.5
1000						
950	31	540	23.8	21.6	10	6.9
900	31	1,012	21.1	17.7	11	7.4
850	31	1,506	18.[illegible]	14.0	11	6.6
800	31	2,025	15.6	10.7	11	6.0
750	31	2,572	13.0	6.9	10	6.0
700	31	3,149	9.[illegible]	2.1	10	6.0
650	31	3,762	6.5	-2.0	10	5.5
600	31	4,415	2.8	-6.4	10	5.0
550	31	5,115	-1.2	-10.0	10	4.9
500	31	5,869	-5.[illegible]	-16.0	10	4.3
450	31	6,689	-10.2	-21.3	09	4.4
400	31	7,587	-15.9	-27.6	08	3.8
350	31	8,583	-22.7	-34.6	06	3.0
300	31	9,693	-31.0	-42.9	05	1.9
250	31	10,959	-41.2		34	1.6
200	31	12,434	-53.8		32	3.1
175	31	13,278	-60.8		32	3.4
150	29	14,219	-68.7		31	3.6
125	29	15,291	-75.9		01	2.7
100	26	16,565	-78.6		07	8.2
[illegible]	22	17,859	-72.3		09	14.0
70	21	18,648	-69.5		09	16.9
60	21	19,575	-66.3		09	19.5
50	21	20,686	-63.3		09	23.7
40	21	22,072	-59.3		09	26.8
30	21	23,892	-55.2		09	29.6
25	21	25,064	-52.6		09	29.0
20	19	26,516	-49.7		09	25.8
15	16	28,413	-46.1		09	23.3
10	13	31,131	-42.6		09	25.2
7						
5						

HILO, HI
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	10	21.9	19.8	25	1.4
1000	31	141	21.8	19.4	24	.3
950	31	586	19.0	17.1	09	3.5
900	31	1,050	16.1	14.5	08	3.5
850	31	1,534	13.2	10.8	08	2.9
800	31	2,044	11.[illegible]	4.2	09	3.4
750	31	2,583	10.2	-7.9	10	4.9
700	31	3,155	[illegible].5	-11.6	10	5.[illegible]
650	31	3,764	5.5	-14.3	11	4.0
600	31	4,414	1.9	-18.0	12	2.4
550	31	5,109	-2.4	-20.4	20	.9
500	31	5,859	-7.4	-24.6	24	3.1
450	31	6,670	-13.[illegible]	-30.5	26	6.0
400	30	7,557	-19.4	-34.4	26	9.6
350	30	8,539	-26.4	-40.7	26	14.0
300	28	9,631	-34.4	-48.1	26	18.1
250	28	10,880	-44.2		27	23.5
200	28	12,339	-55.7		27	26.5
175	28	13,178	-61.8		27	25.4
150	28	14,119	-66.9		27	23.4
125	28	15,210	-70.2		26	16.1
100	25	16,532	-70.1		24	2.3
80	20	17,860	-68.8		09	8.4
70	20	18,664	-66.[illegible]		09	13.0
60	20	19,604	-63.8		09	16.7
50	20	20,730	-60.[illegible]		09	21.2
40	19	22,128	-57.7		09	21.5
30	19	23,957	-55.0		09	23.1
25	19	25,127	-53.4		09	24.5
20	18	26,573	-50.2		09	25.4
15	16	28,464	-47.0		09	24.4
10	7	31,178	-41.6			
7						
5						

HUNTINGTON, WV
990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	29	246	20.5	18.2	17	.8
1000						
950	29	601	22.1	16.0	26	[illegible].4
900	29	1,070	19.7	13.2	28	4.1
850	29	1,561	16.5	10.5	28	5.0
800	29	2,075	13.8	5.0	28	5.[illegible]
750	29	2,617	11.0	-.[illegible]	28	6.[illegible]
700	29	3,190	7.9	-4.7	29	7.3
650	29	3,798	4.4	-9.[illegible]	29	7.4
600	29	4,445	.5	-12.[illegible]	29	7.7
550	29	5,138	-3.4	-18.2	29	7.[illegible]
500	29	5,886	-7.7	-21.7	29	8.1
450	29	6,699	-12.3	-27.6	29	8.1
400	29	7,589	-18.2	-32.5	29	[illegible]
350	29	8,575	-25.5	-38.1	30	10.8
300	29	9,672	-33.8	-44.9	30	12.0
250	29	10,923	-43.8		30	13.0
200	29	12,386	-54.7		30	13.[illegible]
175	29	13,230	-60.1		29	13.4
150	29	14,180	-65.0		30	11.7
125	29	15,281	-68.3		31	7.5
100	29	16,624	-66.5		31	2.6
80	29	17,987	-62.7		05	2.[illegible]
70	29	18,815	-60.5		07	3.1
60	29	19,781	-58.0		08	[illegible].6
50	29	20,938	-55.6		09	[illegible].0
40	29	22,367	-53.5		09	9.[illegible]
30	29	24,231	-50.5		09	10.[illegible]
25	28	25,425	-48.5		09	11.4
20	28	26,902	-46.1		09	13.[illegible]
15	26	28,834	-42.5		09	16.7
10	17	31,598	-38.0		09	19.9
7						
5						

* INTERNATIONAL FALLS, MN
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	359	14.0	12.8	24	.5
1000						
950	31	545	17.0	12.0	25	1.[illegible]
900	31	1,006	15.[illegible]	8.1	27	4.8
850	31	1,490	13.2	6.0	28	6.5
800	31	1,998	10.[illegible]	.8	29	7.0
750	31	2,533	7.[illegible]	-4.8	29	8.[illegible]
700	31	3,098	4.[illegible]	-8.6	29	[illegible].6
650	31	3,698	1.2	-11.8	28	11.2
600	31	4,338	-2.7	-15.4	28	12.[illegible]
550	31	[illegible],022	-6.9	-20.0	28	13.4
500	31	5,759	-11.6	-23.9	28	14.8
450	31	6,559	-16.8	-29.7	28	16.1
400	31	7,433	-22.9	-35.7	28	17.7
350	31	[illegible],401	-30.1	-41.8	28	19.8
300	31	9,478	-38.2	-47.0	28	25.0
250	31	10,710	-46.7		28	29.[illegible]
200	30	12,161	-54.0		27	31.[illegible]
175	30	13,015	-55.2		28	27.7
150	30	13,996	-56.8		28	21.4
125	30	15,148	-58.1		28	17.1
100	30	16,558	-56.7		28	10.1
80	30	17,977	-55.[illegible]		28	5.8
70	30	18,832	-54.1		30	[illegible].8
60	30	19,824	-52.[illegible]		03	.[illegible]
50	30	21,003	-51.7		06	[illegible].3
40	30	22,456	-50.0		08	4.8
30	29	24,349	-47.0		09	7.[illegible]
25	28	25,560	-45.4		09	9.3
20	28	27,057	-42.[illegible]		09	[illegible].8
15	26	29,016	-39.[illegible]		09	11.[illegible]
10	20	31,811	-34.5		09	14.4
7	14	34,324	-29.6		09	14.[illegible]
5	6	36,729	-25.3			

* ISLE DEL CISNE
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	10	26.6	23.4	08	3.6
1000	31	124	26.3	23.9	08	4.8
950	31	576	22.8	20.[illegible]	08	7.2
900	31	1,047	20.0	16.0	09	8.6
850	31	1,538	17.2	10.6	09	9.6
800	31	2,054	14.9	4.3	10	10.1
750	31	2,598	11.8	-.[illegible]	10	9.9
700	31	[illegible],172	8.3	-6.0	10	9.0
650	31	3,781	5.0	-8.8	11	8.6
600	31	4,429	1.3	-13.1	10	7.8
550	31	[illegible],125	-2.5	-17.0	10	5.8
500	31	5,875	-7.1	-22.5	11	4.1
450	31	6,688	-12.5	-27.6	10	3.5
400	31	7,577	-18.4	-33.[illegible]	07	1.9
350	31	8,563	-25.4	-38.6	02	1.7
300	30	9,660	-34.0	-45.8	32	2.5
250	29	10,910	-44.2		29	3.5
200	29	12,367	-56.0		28	5.0
175	29	13,205	-62.1		29	5.5
150	29	14,145	-67.3		30	3.6
125	28	15,234	-70.2		02	1.0
100	27	16,557	-71.6		08	7.9
80	27	17,875	-70.5		09	11.4
70	27	18,674	-67.0		08	15.2
60	27	19,614	-63.6		[illegible]	20.1
50	26	20,743	-60.2		09	23.2
40	26	22,144	-57.5		09	24.9
30	25	23,979	-53.5		09	24.6
25	25	25,159	-51.2		09	24.6
20	24	26,626	-47.0		09	23.4
15	24	28,550	-43.2		09	21.7
10	17	31,290	-39.5		09	23.0
7						
5						

JACKSON, MS
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	100	22.7	21.2	19	1.2
1000	31	154	23.2	21.1	21	1.5
950	31	605	23.9	18.9	25	4.6
900	31	1,077	21.3	16.0	25	2.6
850	31	1,570	18.1	12.8	22	1.5
800	31	2,038	14.7	9.9	19	1.3
750	31	2,632	11.2	6.2	18	1.0
700	31	3,205	7.6	2.8	17	1.4
650	31	3,813	4.3	-1.6	14	1.[illegible]
600	31	4,461	.6	-6.3	14	1.[illegible]
550	31	5,155	-3.4	-11.1	12	1.7
500	31	5,903	-7.[illegible]	-16.4	12	2.1
450	31	6,717	-12.3	-23.3	10	1.8
400	31	7,607	-17.9	-29.5	07	2.3
350	31	8,596	-24.7	-37.1	06	2.4
300	31	9,696	-33.1	-44.5	06	3.3
250	31	10,951	-43.2		06	4.4
200	31	12,416	-55.0		05	5.6
175	31	13,257	-61.0		06	6.0
150	31	14,200	-67.2		06	5.8
125	31	15,288	-71.4		07	6.0
100	31	16,608	-70.0		08	4.8
80	31	17,950	-65.3		09	6.2
70	31	18,770	-62.4		09	[illegible].0
60	30	19,728	-60.4		08	9.6
50	29	20,869	-58.3		09	11.0
40	28	22,283	-55.5		09	12.8
30	27	24,134	-51.7		09	13.8
25	27	25,322	-49.7		08	15.8
20	26	26,792	-47.[illegible]		09	16.8
15	23	28,700	-44.5		09	20.4
10	19	31,442	-39.9		09	25.3
7	7	33,889	-35.6			

JOHN F. KENNEDY INT. AP NY
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	28	[illegible]	20.9	16.4	09	.3
1000	28	147	20.7	15.3	34	1.2
950	28	591	19.6	12.4	32	4.1
900	28	1,055	16.9	9.7	31	4.5
850	28	1,540	13.8	6.3	29	5.0
800	28	2,050	11.3	1.7	29	7.4
750	28	2,587	8.6	-1.5	29	[illegible].6
700	28	3,154	5.[illegible]	-7.7	28	10.[illegible]
650	28	3,758	2.8	-10.1	28	12.6
600	28	4,403	-.7	-13.4	28	13.7
550	28	5,093	-4.8	-18.0	28	14.5
500	27	5,836	-9.1	-24.1	28	15.2
450	27	6,644	-14.0	-28.4	28	16.1
400	26	7,523	-20.1	-34.5	28	17.3
350	25	8,498	-27.1	-40.6	29	20.4
300	25	9,587	-35.3	-46.9	29	22.1
250	25	10,832	-45.1		29	24.2
200	25	12,291	-54.2		28	27.5
175	25	13,140	-58.1		29	26.4
150	25	14,102	-61.9		29	22.8
125	25	15,225	-63.5		28	17.8
100	25	16,595	-62.6		28	11.[illegible]
80	25	17,978	-59.7		29	3.[illegible]
70	25	18,818	-57.5		05	1.9
60	25	19,795	-56.0		08	[illegible]
50	25	20,959	-54.6		09	8.[illegible]
40	24	22,397	-52.5		09	10.3
30	21	24,267	-49.5		09	13.8
25	21	25,466	-47.8		09	15.3
20	20	26,950	-44.9		09	15.3
15	19	28,885	-41.8		09	17.3
10	13	31,663	-37.3			
7						

JOHNSTON IS., PACIFIC AREA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	3	26.2	22.7	09	7.7
1000	31	118	24.9	22.0	09	8.[illegible]
950	31	567	21.3	19.[illegible]	09	10.0
900	31	1,035	18.4	15.[illegible]	09	10.7
850	31	1,524	15.6	12.4	09	[illegible].4
800	31	2,038	13.7	6.2	09	7.3
750	31	2,581	11.9	-.[illegible]	10	5.7
700	31	3,156	9.4	-6.4	10	3.8
650	31	3,767	6.1	-8.6	08	2.2
600	31	4,418	2.5	-12.[illegible]	09	1.[illegible]
550	31	5,117	-1.2	-17.8	06	1.1
500	31	5,871	-5.8	-20.[illegible]	30	.7
450	31	6,688	-11.3	-24.4	27	2.1
400	31	7,580	-17.8	-30.1	26	[illegible].0
350	31	8,569	-24.5	-35.4	26	[illegible].2
300	31	9,671	-32.6	-43.9	27	12.2
250	31	10,930	-42.5		26	17.9
200	31	12,399	-54.4		26	19.7
175	31	13,242	-60.9		26	20.[illegible]
150	31	14,184	-68.2		27	19.7
125	31	15,261	-74.4		27	16.2
100	31	16,561	-73.3		26	1.6
80	31	17,875	-70.4		09	9.1
70	31	18,673	-67.8		09	14.[illegible]
60	30	19,609	-64.8		09	17.7
50	30	20,732	-61.2		09	20.[illegible]
40	30	22,127	-58.4		09	24.6
30	30	23,952	-54.7		09	26.0
25	30	25,124	-52.6		09	26.1
20	29	26,572	-50.2		09	26.7
15	26	28,466	-47.2		09	24.6
10	21	31,171	-42.9		09	23.[illegible]
7	8	33,586	-40.0			

KEY WEST, FL
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	3	27.[illegible]	23.4	10	2.6
1000	31	159	26.[illegible]	22.7	10	[illegible].8
950	31	611	22.9	20.2	11	[illegible].7
900	31	1,081	20.0	16.1	12	4.[illegible]
850	31	1,573	17.0	11.5	11	3.7
800	31	2,089	14.2	7.4	11	[illegible]
750	31	2,632	11.2	3.1	10	2.8
700	31	3,204	7.9	-1.4	10	3.1
650	31	3,812	4.5	-5.5	09	[illegible].2
600	31	4,460	.8	-10.2	09	3.[illegible]
550	31	5,155	-3.2	-15.1	09	[illegible].2
500	31	5,903	-7.5	-21.1	10	3.5
450	31	6,716	-12.6	-24.6	08	3.0
400	31	7,604	-18.[illegible]	-29.3	08	3.[illegible]
350	31	8,589	-25.7	-35.6	07	4.7
300	31	9,685	-33.[illegible]	-44.3	07	6.2
250	31	10,936	-44.1		07	8.[illegible]
200	31	12,395	-55.6		06	10.4
175	31	13,234	-61.1		06	10.[illegible]
150	31	14,180	-65.9		07	10.2
125	31	15,278	-69.1		07	7.0
100	31	16,611	-69.1		08	7.2
80	30	17,949	-67.2		08	[illegible].4
70	29	18,760	-64.[illegible]		08	12.[illegible]
60	28	19,708	-62.5		08	15.4
50	28	20,842	-59.[illegible]		09	19.1
40	28	22,251	-56.[illegible]		09	20.7
30	28	24,096	-52.2		10	20.5
25	26	25,288	-49.2		09	19.2
20	25	26,760	-46.7		08	19.7
15	23	28,683	-43.[illegible]		08	23.8
10	11	31,429	-39.8			
7						

KING SALMON, AK
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	24	15	9.7	7.7	17	2.2
1000	23	115	10.1	7.5	18	2.5
950	24	536	9.1	5.6	16	2.8
900	24	984	7.4	3.[illegible]	15	3.3
850	24	1,452	4.2	.5	14	3.9
800	24	1,944	1.6	-3.3	14	4.8
750	24	2,461	-1.5	-6.5	14	5.6
700	24	3,008	-4.0	-13.[illegible]	14	4.6
650	24	3,590	-6.9	-15.[illegible]	15	4.7
600	24	4,211	-10.1	-20.[illegible]	15	4.0
550	24	4,877	-14.1	-25.3	15	3.6
500	24	5,594	-19.0	-29.4	16	3.6
450	24	6,370	-24.2	-32.[illegible]	17	3.2
400	24	7,218	-30.6	-40.8	18	2.4
350	24	8,157	-37.3	-45.[illegible]	27	3.6
300	23	9,206	-44.4		27	5.0
250	23	10,409	-51.0		27	6.6
200	23	11,867	-48.5		27	6.6
175	23	12,747	-47.9		28	6.1
150	23	13,763	-48.5		28	5.9
125	23	14,962	-49.0		29	4.2
100	23	16,427	-49.2		30	1.9
80	23	17,892	-48.7		32	.9
70	23	18,771	-48.6		06	.8
60	23	19,786	-48.2		08	1.5
50	23	20,989	-47.6		09	3.1
40	22	22,465	-46.7		08	4.6
30	21	24,378	-45.2		09	6.4
25	20	25,598	-43.8		08	7.0
20	19	27,103	-41.8		09	8.7
15	19	29,069	-38.3		09	9.2
10	11	31,888	-33.3			
7						

RAWINSONDE DATA

Average monthly values

KOROR, CAROLINE IS. +
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	30	27.1	24.7	24	.9
1000	31	75	26.7	24.5	25	1.1
950	31	528	23.7	21.2	26	3.0
900	31	1,001	21.0	17.6	25	3.6
850	31	1,495	18.0	14.6	25	3.0
800	31	2,014	15.7	11.7	25	1.9
750	31	2,561	13.0	8.6	24	2.0
700	31	3,138	9.7	5.4	22	1.4
650	31	3,752	6.[illegible]	2.8	17	1.9
600	31	4,404	2.5	-.1	14	3.2
550	31	5,105	-1.3	-4.2	13	4.3
500	31	5,860	-5.2	-8.6	11	5.0
450	31	6,682	-9.5	-14.7	11	[illegible]
400	31	7,584	-14.9	-22.[illegible]	10	5.2
350	31	8,584	-21.6	-30.4	09	[illegible].7
300	31	9,699	-29.9	-39.1	08	6.4
250	31	10,971	-40.3	-48.3	07	7.9
200	31	12,450	-53.4		07	9.9
175	31	13,296	-60.6		06	11.3
150	31	14,236	-69.0		06	12.0
125	29	15,307	-76.4		07	9.7
100	29	16,580	-78.0		07	9.1
80	29	17,873	-72.4		08	13.2
70	29	18,666	-68.9		09	15.3
60	29	19,593	-66.7		09	17.8
50	29	20,704	-63.4		09	24.5
40	29	22,091	-58.6		09	31.0
30	28	23,916	-53.3		09	31.4
25	27	25,104	-49.4		09	22.[illegible]
20	23	26,583	-46.7		09	13.6
15	21	28,498	-44.7		09	[illegible].3
10	13	31,253	-40.5			
7	5	33,720	-38.7			

KOTZEBUE, AK
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	28	5	13.8	10.1	28	.2
1000	28	110	15.0	6.2	13	.7
950	28	546	14.8	2.5	13	2.4
900	28	1,001	11.5	1.0	14	3.3
850	28	1,475	7.5	-.9	14	3.8
800	28	1,971	3.8	-3.6	13	4.0
750	28	2,492	.1	-6.9	12	3.[illegible]
700	28	3,041	-3.6	-10.8	12	4.2
650	28	3,624	-6.7	-17.0	12	4.5
600	28	4,245	-10.3	-21.5	11	3.7
550	28	4,909	-14.5	-25.0	11	3.7
500	28	5,625	-19.6	-30.0	10	3.9
450	28	6,399	-25.0	-35.9	10	4.1
400	28	7,245	-31.3	-40.6	10	4.2
350	28	8,179	-38.4	-45.0	08	3.3
300	28	9,219	-46.1		06	4.2
250	28	10,413	-52.8		06	4.[illegible]
200	27	11,853	-49.2		07	3.3
175	27	12,732	-48.2		07	3.2
150	27	13,750	-47.7		06	2.7
125	27	14,954	-47.6		06	3.0
100	27	16,429	-47.3		07	4.0
80	27	17,906	-46.8		07	4.2
70	27	18,793	-46.2		07	4.4
60	27	19,819	-45.7		07	4.5
50	27	21,036	-45.0		07	5.4
40	26	22,525	-44.8		07	[illegible].2
30	26	24,454	-43.[illegible]		08	6.1
25	26	25,682	-42.6		07	7.4
20	25	27,196	-40.5		08	8.1
15	24	29,172	-37.3		08	8.7
10	23	32,005	-31.[illegible]		08	9.9
7	16	34,569	-27.4		08	12.3

LAKE CHARLES, LA
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	5	23.7	22.9	03	.3
1000	31	153	25.6	23.5	22	1.4
950	31	605	23.3	20.2	21	3.6
900	31	1,076	20.7	15.5	19	3.5
850	31	1,569	17.8	11.9	18	3.2
800	31	2,086	14.9	8.4	15	2.6
750	31	2,630	11.8	3.4	14	2.9
700	31	3,204	8.1	.9	12	2.5
650	31	3,813	4.7	-3.7	11	2.6
600	31	4,462	.8	-8.0	11	2.2
550	31	5,156	-3.1	-13.[illegible]	09	2.[illegible]
500	31	5,905	-7.3	-17.2	08	2.5
450	30	6,718	-12.1	-24.5	09	2.6
400	30	7,609	-17.9	-31.0	08	3.4
350	29	8,599	-24.7	-38.[illegible]	08	3.7
300	29	9,699	-33.0	-45.8	09	5.3
250	29	10,955	-43.1		08	6.7
200	29	12,422	-54.5		08	8.3
175	29	13,264	-60.8		08	9.1
150	29	14,208	-67.1		08	9.0
125	29	15,297	-71.3		08	[illegible].4
100	29	16,618	-70.0		09	6.8
80	29	17,961	-65.5		09	7.3
70	29	18,779	-62.9		09	[illegible].9
60	29	19,735	-60.3		08	10.9
50	29	20,877	-58.0		09	12.2
40	29	22,292	-55.6		09	14.0
30	28	24,140	-52.5		09	15.6
25	27	25,324	-50.4		09	17.5
20	27	26,788	-48.0		09	19.5
15	27	28,703	-44.1		09	21.6
10	18	31,448	-40.7		09	24.6
7	5	33,889	-36.7			

LANDER, WY
832 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	1,697	15.6	4.7	24	1.7
1000						
950						
900						
850						
800	31	2,030	17.5	3.9	28	1.[illegible]
750	31	2,579	14.4	.6	26	3.1
700	31	3,158	10.5	-2.7	26	5.7
650	31	3,770	6.1	-6.1	26	7.[illegible]
600	31	4,421	1.2	-9.8	26	9.5
550	31	5,114	-4.3	-13.8	26	9.9
500	31	5,857	-9.8	-18.9	26	11.0
450	31	6,663	-15.3	-26.4	26	12.2
400	31	7,542	-21.7	-31.5	25	14.3
350	31	8,514	-28.9	-39.0	25	18.2
300	31	9,596	-37.1	-48.0	25	21.7
250	31	10,831	-46.4		25	25.4
200	31	12,284	-55.1		24	29.2
175	31	13,129	-58.6		24	28.9
150	31	14,092	-61.3		25	22.[illegible]
125	30	15,214	-63.8		25	15.1
100	30	16,581	-63.2		25	6.9
80	29	17,967	-59.7		21	.7
70	29	18,805	-58.2		11	1.6
60	29	19,779	-56.7		10	4.4
50	29	20,941	-54.5		09	6.5
40	29	22,375	-53.0		09	8.2
30	29	24,242	-50.1		08	10.[illegible]
25	27	25,440	-48.2		09	11.[illegible]
20	26	26,918	-45.6		09	13.5
15	25	28,852	-42.2		09	14.3
10	17	31,622	-37.6		09	17.4
7						

* LIHUE KAUAI, HI
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	36	24.4	20.5	07	6.3
1000	31	155	23.3	19.5	07	7.1
950	31	601	19.3	17.4	07	8.6
900	31	1,065	16.1	13.7	07	8.7
850	31	1,549	13.1	9.0	08	[illegible].3
800	31	2,059	12.1	.1	08	8.[illegible]
750	31	2,598	11.1	-9.2	09	6.7
700	31	3,171	8.5	-13.5	09	5.2
650	31	3,780	5.0	-15.5	09	3.6
600	31	4,427	.8	-18.3	12	2.0
550	31	5,120	-3.7	-21.0	18	1.4
500	31	5,865	-8.8	-27.0	24	2.7
450	31	6,673	-14.2	-31.5	26	4.6
400	31	7,555	-20.9	-36.7	27	[illegible].0
350	31	8,531	-28.1	-42.1	27	11.7
300	31	9,616	-36.2	-48.9	27	16.8
250	31	10,857	-45.4		27	23.9
200	31	12,311	-56.0		27	29.8
175	31	13,149	-61.5		27	27.8
150	31	14,095	-65.4		27	22.7
125	31	15,202	-66.7		27	12.3
100	31	16,549	-67.9		23	1.8
80	31	17,889	-67.4		09	6.7
70	31	18,699	-65.2		09	11.1
60	31	19,644	-62.8		09	14.6
50	31	20,774	-60.5		09	18.3
40	31	22,175	-57.3		09	20.3
30	31	24,010	-54.0		09	21.9
25	30	25,186	-52.4		09	22.2
20	29	26,637	-49.8		09	24.2
15	29	28,533	-46.5		09	25.4
10	21	31,244	-42.3		09	25.7
7	8	33,673	-38.2			

LITTLE ROCK, AR
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	79	23.7	21.4	23	.9
1000	8	176	24.9	21.5		
950	31	608	24.6	18.7	24	4.4
900	31	1,081	21.8	16.1	24	3.9
850	31	1,575	18.5	13.1	24	3.3
800	31	2,093	15.2	8.1	23	2.9
750	31	2,638	12.0	4.0	22	2.7
700	31	3,213	8.5	1.1	21	2.3
650	31	3,822	5.0	-4.0	19	1.8
600	31	4,471	.9	-7.9	15	1.7
550	31	5,166	-3.2	-13.[illegible]	14	1.7
500	31	5,914	-7.6	-20.[illegible]	13	2.0
450	31	6,728	-11.9	-26.5	10	1.7
400	31	7,619	-17.9	-32.1	05	1.1
350	31	8,607	-24.8	-38.0	04	.8
300	31	9,707	-33.2	-45.2	33	1.1
250	31	10,962	-43.2		31	1.8
200	31	12,427	-54.9		32	3.2
175	31	13,268	-61.2		33	3.1
150	31	14,211	-67.3		36	3.1
125	31	15,297	-71.4		03	3.0
100	31	16,620	-69.2		09	3.0
80	31	17,969	-64.0		07	4.6
70	31	18,792	-61.6		08	6.0
60	31	19,751	-60.0		09	7.9
50	31	20,896	-57.3		09	9.6
40	31	22,317	-54.7		09	10.8
30	31	24,171	-51.8		09	12.3
25	30	25,360	-49.4		09	14.3
20	28	26,828	-46.3		09	16.2
15	25	28,742	-44.0		09	18.0
10	21	31,499	-38.6		09	22.7
7	8	33,958	-35.4			

LONGVIEW, TX
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	30	124	23.4	21.7	20	1.6
1000	30	149	23.[illegible]	21.7	22	2.5
950	30	600	24.5	18.5	23	[illegible].9
900	30	1,074	22.1	15.8	22	4.6
850	30	1,568	18.6	13.2	20	3.3
800	30	2,087	15.4	8.[illegible]	19	2.6
750	30	2,632	11.[illegible]	4.8	17	2.0
700	30	3,206	8.2	1.7	17	2.0
650	30	3,815	4.5	-2.2	16	2.3
600	30	4,463	.7	-7.1	14	1.8
550	30	5,157	-3.2	-13.4	12	1.7
500	30	5,906	-7.1	-20.4	09	1.8
450	30	6,720	-11.[illegible]	-26.8	07	3.3
400	30	7,612	-17.7	-32.1	08	3.8
350	29	8,602	-24.4	-38.9	09	4.1
300	28	9,706	-33.0	-45.2	08	3.8
250	28	10,962	-42.8		09	3.6
200	28	12,429	-54.4		09	3.[illegible]
175	28	13,273	-60.[illegible]		08	5.1
150	28	14,218	-66.[illegible]		08	[illegible].2
125	28	15,304	-71.9		07	6.0
100	28	16,623	-69.4		09	5.7
80	28	17,970	-64.4		09	6.[illegible]
70	28	18,792	-62.[illegible]		09	7.3
60	28	19,749	-60.3		09	[illegible].2
50	28	20,894	-57.6		09	10.6
40	27	22,309	-55.4		09	12.5
30	26	24,161	-51.[illegible]		09	14.0
25	26	25,350	-49.4		09	16.3
20	25	26,823	-47.0		09	17.[illegible]
15	25	28,736	-44.8		09	19.8
10	19	31,490	-40.0		09	25.2
7	5	33,910	-37.8			

MCGRATH, AK
1001 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	103	12.7	[illegible].3	26	1.2
1000	17	133	13.7	7.4	29	1.5
950	31	542	13.9	5.7	27	1.[illegible]
900	31	996	11.1	3.1	24	.3
850	31	1,471	7.5	.7	11	1.4
800	31	1,967	3.9	-1.9	12	2.4
750	31	2,489	.1	-4.5	13	3.2
700	31	3,038	-3.8	-7.8	13	3.5
650	31	3,620	-7.1	-13.4	13	3.5
600	31	4,240	-10.9	-19.[illegible]	13	[illegible].4
550	31	4,903	-15.1	-24.[illegible]	12	3.5
500	31	5,617	-19.9	-31.1	11	3.[illegible]
450	31	6,390	-25.2	-35.7	11	3.1
400	31	7,235	-31.5	-41.6	10	3.1
350	31	8,170	-38.6	-45.3	09	2.6
300	31	9,208	-46.6		07	2.6
250	31	10,398	-53.2		08	1.[illegible]
200	31	11,848	-48.7		09	1.3
175	30	12,730	-48.2		10	1.[illegible]
150	30	13,746	-48.3		07	1.2
125	30	14,947	-48.5		07	1.2
100	30	16,417	-48.1		07	1.8
80	30	17,889	-47.5		08	2.7
70	30	18,773	-47.0		08	2.[illegible]
60	30	19,795	-46.6		07	3.3
50	30	21,007	-46.2		08	4.4
40	30	22,492	-45.7		08	[illegible].0
30	30	24,412	-44.8		08	6.3
25	30	25,635	-43.4		08	6.9
20	30	27,144	-41.3		08	[illegible].3
15	27	29,113	-37.8		09	9.4
10	15	31,958	-32.5		08	11.0
7	5	34,510	-28.3			

MAJURO, MARSHALL IS. +
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	3	28.9	24.8	08	3.8
1000	31	82	27.3	23.6	08	4.5
950	31	536	24.0	22.0	09	6.9
900	31	1,009	21.4	18.3	09	7.6
850	31	1,504	18.7	14.8	10	7.6
800	31	2,024	16.1	11.7	10	7.7
750	31	2,572	13.4	7.7	10	8.0
700	31	3,150	10.4	4.7	09	8.1
650	31	3,765	7.2	.8	09	8.1
600	31	4,420	3.3	-3.2	10	8.3
550	31	5,121	-.6	-7.0	10	7.8
500	31	5,878	-4.5	-13.0	10	7.1
450	31	6,702	-9.2	-18.0	10	[illegible]
400	31	7,604	-14.7	-24.3	10	4.[illegible]
350	31	8,605	-21.[illegible]	-32.2	10	4.6
300	31	9,720	-29.8	-41.3	12	4.4
250	31	10,992	-40.1	-49.6	12	4.2
200	31	12,475	-52.7		14	3.2
175	31	13,323	-59.6		16	2.9
150	31	14,269	-67.7		15	2.0
125	31	15,348	-74.[illegible]		13	2.2
100	31	16,628	-77.9		10	2.5
80	31	17,925	-71.9		09	8.[illegible]
70	31	18,719	-69.0		09	12.[illegible]
60	31	19,646	-66.2		09	17.8
50	31	20,764	-61.[illegible]		09	24.4
40	30	22,161	-57.3		09	31.3
30	29	24,004	-51.2		10	26.8
25	28	25,196	-47.7		10	16.[illegible]
20	28	26,679	-45.7		09	7.1
15	25	28,607	-43.4		10	6.5
10	18	31,357	-40.7			
7						

* MEDFORD, OR
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	401	14.4	8.1	29	.5
1000						
950	31	583	16.0	7.2	30	1.2
900	31	1,042	14.5	5.8	30	1.4
850	31	1,524	12.4	4.[illegible]	34	.5
800	31	2,032	11.5	-2.5	29	.7
750	31	2,569	9.0	-6.2	24	3.[illegible]
700	31	3,137	5.6	-9.5	24	5.2
650	31	3,739	2.1	-14.0	24	6.8
600	31	4,380	-1.9	-18.3	24	[illegible].3
550	31	5,066	-6.4	-22.1	24	9.4
500	31	[illegible],804	-11.5	-26.7	24	10.3
450	31	6,604	-16.8	-30.6	25	12.1
400	31	7,477	-23.4	-36.1	25	13.5
350	31	8,443	-30.7	-42.3	25	15.4
300	31	[illegible],515	-39.3	-50.3	25	16.1
250	31	10,738	-48.9		24	17.6
200	31	12,178	-56.0		24	19.2
175	31	13,025	-57.3		24	19.5
150	31	13,999	-57.6		24	18.6
125	31	15,147	-58.8		25	13.0
100	31	16,544	-59.7		24	7.8
80	31	17,944	-58.2		23	2.[illegible]
70	31	18,787	-57.1		16	1.3
60	30	19,765	-56.1		12	2.9
50	30	20,927	-54.7		10	4.6
40	30	22,361	-52.7		09	6.6
30	29	24,232	-50.4		09	9.0
25	28	25,427	-48.4		09	10.5
20	27	26,906	-45.9		09	12.2
15	26	28,830	-42.6		09	14.1
10	22	31,598	-37.7		09	17.3
7	[illegible]	34,033	-34.2			

MERIDA, MEXICO
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	30	11	22.8	22.[illegible]	09	1.0
1000	30	139	24.9	22.9	10	3.7
950	30	589	23.1	19.[illegible]	12	6.5
900	30	1,061	20.9	13.9	11	6.6
850	30	1,554	18.1	[illegible].3	11	6.0
800	30	2,071	15.5	3.1	10	5.6
750	30	2,615	12.1	-2.[illegible]	11	6.0
700	30	3,190	8.6	-4.3	11	5.5
650	30	3,798	4.8	-7.2	10	4.9
600	30	4,447	1.1	-11.7	10	4.9
550	30	5,141	-3.1	-15.3	09	5.6
500	30	5,890	-7.2	-20.7	09	5.6
450	30	6,704	-12.0	-27.3	08	5.5
400	30	7,595	-18.1	-32.[illegible]	08	5.2
350	30	8,582	-25.1	-39.1	07	4.7
300	30	9,680	-33.6	-46.3	07	3.5
250	30	10,932	-43.[illegible]		04	1.5
200	30	12,394	-55.2		36	2.0
175	30	13,236	-60.6		03	2.6
150	29	14,182	-66.0		07	3.5
125	29	15,278	-69.6		06	4.7
100	29	16,601	-71.0		07	8.8
80	29	17,927	-69.1		09	12.6
70	29	18,731	-66.1		09	13.9
60	28	19,674	-63.0		08	17.3
50	28	20,806	-59.[illegible]		09	20.8
40	28	22,210	-56.9		09	22.3
30	26	24,051	-52.8		09	22.0
25	26	25,233	-50.9		09	21.7
20	26	26,694	-48.7		09	24.3
15	24	28,597	-44.9		08	27.2
10	14	31,333	-40.1			
7						

MIDLAND, TX
918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	874	21.7	15.2	15	2.5
1000						
950						
900	31	1,043	22.9	16.1	17	6.3
850	31	1,540	21.0	13.6	19	10.3
800	31	2,064	18.4	9.0	18	5.7
750	31	2,614	14.8	4.9	14	3.4
700	31	3,194	10.8	-.1	11	3.3
650	31	3,808	6.8	-5.3	11	3.5
600	31	4,460	2.3	-10.7	11	3.3
550	31	5,158	-1.7	-16.4	11	3.[illegible]
500	31	5,910	-6.4	-22.0	12	4.1
450	31	6,726	-11.5	-27.0	11	4.1
400	31	7,619	-17.5	-31.9	11	3.9
350	31	8,608	-24.4	-38.8	10	3.[illegible]
300	31	9,710	-32.8	-46.5	08	3.5
250	31	10,967	-42.8		07	3.5
200	31	12,435	-53.[illegible]		08	3.4
175	31	13,281	-60.[illegible]		08	3.9
150	31	14,229	-66.2		08	4.4
125	31	15,320	-70.8		08	5.1
100	31	16,644	-69.0		09	4.3
80	31	17,992	-64.9		09	5.5
70	31	18,811	-63.0		09	6.7
60	31	19,765	-60.6		09	9.3
50	31	20,909	-57.7		09	11.0
40	31	22,327	-55.[illegible]		09	13.5
30	30	24,180	-51.9		09	14.9
25	30	25,368	-49.5		09	15.5
20	30	26,840	-46.9		09	16.7
15	29	28,760	-44.0		09	20.1
10	27	31,504	-39.5		09	24.1
7	12	33,982	-36.2			

MONTERREY, MEXICO
965 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	423	22.6	19.8	13	1.4
1000						
950	31	585	22.3	19.4	12	2.4
900	31	1,054	19.4	17.2	14	4.2
850	31	1,547	19.6	9.9	14	7.1
800	31	2,068	17.0	5.7	14	6.0
750	31	2,615	13.5	.2	15	4.[illegible]
700	31	3,192	10.1	-5.0	14	3.2
650	30	3,805	6.1	-8.0	12	2.0
600	30	4,455	1.8	-11.6	10	2.3
550	30	5,151	-2.8	-16.5	09	3.0
500	30	5,900	-7.6	-19.8	10	3.7
450	30	6,712	-12.6	-24.9	09	4.1
400	30	7,601	-18.6	-31.9	09	4.7
350	30	8,587	-25.5	-37.2	09	4.[illegible]
300	30	9,684	-33.8	-46.2	08	5.3
250	30	10,934	-44.1		08	7.2
200	30	12,394	-55.5		07	8.0
175	30	13,233	-61.2		08	7.6
150	29	14,181	-66.4		08	7.[illegible]
125	29	15,270	-71.2		07	7.4
100	29	16,589	-70.7		08	7.5
80	29	17,924	-67.0		09	9.6
70	29	18,737	-64.4		09	10.5
60	28	19,695	-62.9		08	12.4
50	28	20,815	-60.5		08	16.1
40	26	22,216	-57.0		09	18.7
30	25	24,052	-53.0		09	19.0
25	24	25,236	-50.6		09	19.6
20	23	26,700	-48.4		09	20.4
15	23	28,608	-45.9		08	23.7
10	12	31,335	-40.8		09	28.3
7	7	33,783	-36.4			

MONETT, MO
967 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	438	21.4	19.4	16	2.1
1000						
950	31	595	23.6	18.9	21	4.2
900	31	1,069	22.3	15.3	24	7.2
850	31	1,564	19.2	12.9	25	5.7
800	31	2,083	16.1	7.7	25	4.1
750	31	2,630	12.7	3.6	25	3.6
700	31	3,205	9.0	.3	24	3.1
650	31	3,816	5.0	-4.0	24	2.5
600	30	4,465	1.0	-9.9	23	2.7
550	30	5,159	-3.1	-15.1	24	3.1
500	30	5,908	-7.5	-20.4	24	2.2
450	30	6,722	-11.7	-27.8	27	2.2
400	30	7,614	-17.4	-33.9	28	3.0
350	30	8,604	-24.5	-39.2	28	4.4
300	30	9,704	-33.1	-47.1	28	4.8
250	30	10,961	-42.9		28	6.4
200	30	12,428	-54.4		28	5.4
175	30	13,272	-60.4		30	5.8
150	30	14,219	-66.2		30	4.4
125	30	15,314	-69.4		32	2.2
100	28	16,653	-68.4		09	1.6
80	28	18,010	-63.0		08	3.7
70	28	18,837	-60.7		09	5.2
60	28	19,802	-58.7		09	6.7
50	28	20,955	-56.0		09	8.2
40	28	22,381	-53.9		09	10.3
30	27	24,239	-51.0		09	11.5
25	26	25,429	-48.9		08	12.9
20	24	26,899	-46.2		08	14.[illegible]
15	23	28,823	-43.5		09	18.3
10	16	31,592	-38.5		09	22.7
7						

NASHVILLE, TN
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind	
					Direction tens of deg	Speed m.p.s.
SFC	31	180	22.1	20.8	15	.7
1000	6	183	21.9	20.6		
950	31	609	23.6	17.5	22	1.9
900	31	1,081	21.0	15.[illegible]	25	2.5
850	31	1,574	18.1	10.1	26	2.6
800	31	2,091	15.3	6.2	26	2.9
750	31	2,636	12.1	1.4	27	2.9
700	31	3,211	8.6	-3.2	27	2.7
650	31	3,820	4.9	-6.4	27	3.0
600	31	4,469	.8	-8.5	27	2.3
550	31	5,163	-3.2	-13.4	27	2.2
500	31	5,912	-7.2	-20.3	27	2.1
450	30	6,726	-12.0	-25.8	28	2.4
400	30	7,617	-18.0	-33.[illegible]	30	2.4
350	30	8,605	-24.8	-39.2	31	3.5
300	30	9,705	-33.2	-45.2	31	4.5
250	30	10,960	-43.2		32	6.3
200	30	12,425	-54.8		32	6.4
175	30	13,267	-60.9		32	6.8
150	30	14,211	-67.1		33	6.5
125	30	15,302	-70.0		36	4.0
100	30	16,635	-67.9		05	1.9
80	30	17,988	-63.8		07	4.1
70	30	18,813	-61.1		08	5.5
60	30	19,775	-58.9		08	7.1
50	29	20,928	-56.6		09	9.0
40	29	22,351	-54.4		09	10.2
30	27	24,208	-50.7		09	11.6
25	27	25,401	-49.0		09	12.9
20	27	26,874	-46.7		09	15.1
15	26	28,796	-43.3		09	18.7
10	25	31,548	-38.5		09	20.1
7	12	34,018	-34.8			

RAWINSONDE DATA

Average monthly values

JULY 1977

* NOME, AK
1012 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	11.1	6.4	04	1.3
1000	31	105	12.8	6.7	07	1.5
950	31	537	12.3	3.1	12	3.4
900	31	989	10.1	-.6	13	3.8
850	31	1,461	6.9	-2.4	14	4.6
800	31	1,957	3.6	-5.6	13	4.6
750	31	2,478	.3	-8.7	13	4.9
700	31	3,028	-3.0	-12.0	12	4.[illegible]
650	31	3,611	-6.4	-15.2	12	4.6
600	31	4,233	-10.2	-20.4	12	4.6
550	31	4,898	-14.4	-25.5	12	4.2
500	31	5,614	-19.1	-29.4	12	4.1
450	31	6,390	-24.3	-34.5	11	4.7
400	31	7,238	-30.6	-39.5	12	5.3
350	31	8,175	-37.7	-45.6	12	5.2
300	31	9,218	-45.8		12	[illegible].2
250	31	10,410	-52.9		10	5.7
200	31	11,857	-48.9		10	3.6
175	31	12,736	-47.9		09	3.2
150	31	13,754	-47.7		09	2.6
125	31	14,958	-47.8		06	2.5
100	31	16,430	-47.8		07	2.7
80	28	17,912	-47.4		08	2.9
70	27	18,796	-46.8		08	3.3
60	27	19,818	-46.5		08	3.6
50	27	21,032	-45.6		08	4.1
40	26	22,523	-45.4		08	5.3
30	26	24,445	-44.3		07	6.0
25	26	25,670	-43.3		08	6.5
20	25	27,178	-41.0		08	8.6
15	22	29,151	-37.9		08	9.4
10	10	32,005	-31.6			
7						

NORTH PLATTE, NE
918 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	847	18.5	13.3	06	.5
1000						
950						
900	31	1,021	20.6	14.1	20	1.1
850	31	1,516	21.3	10.4	23	5.1
800	31	2,040	18.8	7.1	23	5.1
750	31	2,591	15.3	3.7	22	4.8
700	31	3,172	11.[illegible]	1.0	23	5.1
650	31	3,787	7.0	-3.0	24	5.3
600	31	4,439	2.1	-6.2	25	6.1
550	31	5,136	-2.8	-11.1	26	6.2
500	31	5,884	-8.1	-16.6	27	6.7
450	31	6,696	-12.9	-23.4	27	8.8
400	29	7,582	-18.9	-31.3	26	10.7
350	28	8,568	-26.1	-37.4	26	12.7
300	28	9,661	-34.6	-44.5	26	14.8
250	28	10,909	-44.4		26	16.7
200	28	12,370	-54.7		26	18.9
175	28	13,215	-59.3		26	18.1
150	28	14,170	-63.8		26	15.2
125	28	15,280	-66.5		26	9.4
100	27	16,628	-64.9		26	5.[illegible]
80	27	18,001	-61.1		24	.4
70	27	18,836	-58.9		08	2.3
60	27	19,808	-57.1		09	3.9
50	27	20,967	-55.0		09	6.3
40	27	22,400	-52.7		09	[illegible].2
30	27	24,270	-50.0		09	10.0
25	26	25,470	-48.0		09	12.1
20	26	26,951	-45.5		09	12.6
15	25	28,882	-42.5		08	14.4
10	17	31,657	-36.4		09	17.5
7						

OAKLAND, CA
1014 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	6	13.4	11.1	26	1.3
1000	31	125	12.8	10.8	26	1.6
950	31	558	16.2	5.6	27	3.0
900	31	1,023	20.9	-.[illegible]	29	4.3
850	31	1,515	19.3	-3.3	28	3.[illegible]
800	31	2,033	16.6	-6.3	25	3.1
750	31	2,579	13.4	-9.2	23	3.4
700	31	3,155	9.5	-11.6	22	3.8
650	31	3,765	5.6	-14.6	22	[illegible].7
600	31	4,414	1.2	-17.9	23	5.0
550	31	5,108	-3.5	-22.5	24	[illegible].4
500	31	5,854	-8.8	-26.7	23	[illegible].4
450	31	6,661	-14.7	-31.6	23	7.3
400	31	7,541	-21.6	-37.3	23	[illegible]
350	30	8,511	-29.3	-44.4	23	10.6
300	30	9,590	-37.9	-50.[illegible]	23	12.[illegible]
250	30	10,822	-46.8		23	17.4
200	30	12,274	-54.9		23	20.9
175	30	13,123	-57.1		23	22.7
150	29	14,091	-60.2		23	18.6
125	29	15,220	-63.1		24	12.0
100	29	16,590	-63.1		23	4.1
80	28	17,966	-62.0		15	1.5
70	28	18,797	-60.0		11	[illegible].6
60	27	19,767	-58.6		10	5.1
50	27	20,918	-56.4		09	7.0
40	27	22,344	-54.1		09	9.1
30	27	24,200	-51.5		09	11.8
25	25	25,392	-49.5		09	13.2
20	25	26,862	-46.8		09	14.4
15	24	28,783	-44.4		09	16.9
10	21	31,524	-39.2		09	19.5
7	9	33,989	-35.0			

OMAHA, NE
969 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	403	21.1	16.9	17	1.3
1000						
950	31	568	22.[illegible]	16.1	19	3.8
900	31	1,040	22.7	11.0	22	7.[illegible]
850	31	1,536	19.9	8.2	24	7.2
800	31	2,056	16.8	4.7	24	6.2
750	31	2,603	13.5	1.7	25	5.7
700	31	3,180	9.4	-.7	26	6.0
650	31	3,792	5.6	-5.8	26	7.0
600	31	4,441	1.[illegible]	-11.2	26	[illegible].4
550	31	5,136	-3.2	-16.8	27	8.[illegible]
500	31	5,884	-7.[illegible]	-21.1	27	[illegible].4
450	31	6,696	-12.8	-26.8	27	9.4
400	31	7,585	-18.5	-30.9	27	10.6
350	31	8,570	-25.4	-37.9	27	11.7
300	31	9,667	-33.9	-45.6	28	13.[illegible]
250	31	10,918	-44.0		27	15.[illegible]
200	31	12,382	-54.2		28	18.[illegible]
175	31	13,229	-59.1		27	17.6
150	31	14,184	-63.7		27	14.[illegible]
125	31	15,293	-66.[illegible]		27	10.1
100	31	16,645	-65.0		27	3.9
80	31	18,017	-61.0		35	.[illegible]
70	31	18,851	-59.[illegible]		08	2.[illegible]
60	31	19,823	-57.0		08	3.[illegible]
50	31	20,983	-55.0		08	6.[illegible]
40	31	22,417	-52.6		09	7.9
30	29	24,290	-49.6		09	9.[illegible]
25	28	25,486	-48.1		09	11.3
20	28	26,966	-45.5		09	12.9
15	26	28,902	-41.[illegible]		09	14.6
10	22	31,683	-36.8		09	17.7
7	13	34,169	-33.1			

+ PAGO PAGO, AMERICAN SAMOA
1012 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	27.5	22.0	12	5.[illegible]
1000	31	107	25.1	20.[illegible]	11	6.[illegible]
950	31	557	21.3	18.[illegible]	11	7.1
900	31	1,023	17.8	15.6	10	6.4
850	31	1,512	16.5	8.6	09	5.4
800	31	2,028	15.8	2.[illegible]	08	3.7
750	31	2,575	13.9	-2.2	08	2.3
700	31	3,153	10.6	-5.3	07	1.7
650	31	3,767	7.5	-9.[illegible]	05	[illegible].4
600	31	4,422	3.3	-11.[illegible]	01	.8
550	31	5,122	-.7	-16.5	32	.8
500	31	5,877	-5.4	-22.1	28	1.1
450	31	6,696	-10.4	-26.8	26	[illegible]
400	31	7,593	-16.2	-32.1	26	3.7
350	31	[illegible],588	-22.7	-38.[illegible]	25	6.3
300	31	[illegible],697	-31.3	-45.9	24	7.[illegible]
250	31	10,960	-41.7		26	[illegible].0
200	31	12,433	-54.0		27	9.[illegible]
175	31	13,278	-60.8		26	10.[illegible]
150	31	14,220	-68.1		25	10.[illegible]
125	31	15,295	-75.5		26	9.3
100	31	16,569	-79.1		26	[illegible].3
80	31	17,849	-74.4		26	4.[illegible]
70	31	18,639	-69.1		26	2.6
60	31	19,574	-63.4		07	.9
50	31	20,703	-60.6		08	[illegible]
40	30	22,100	-58.3		08	[illegible].5
30	30	23,928	-54.1		09	[illegible]
25	29	25,104	-52.3		09	8.1
20	29	26,555	-49.9		07	3.1
15	28	28,466	-44.3		27	7.5
10	24	31,209	-41.1		26	13.4
7	11	33,644	-38.1			

* PEORIA, IL
994 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	200	19.[illegible]	17.2	18	1.0
1000						
950	31	593	22.9	15.3	23	3.4
900	31	1,064	20.3	12.8	25	5.2
850	31	1,555	17.0	9.7	27	5.7
800	31	2,071	14.[illegible]	3.6	27	[illegible].2
750	31	2,615	11.9	-.6	27	6.[illegible]
700	31	3,189	[illegible].3	-4.5	27	7.0
650	31	3,797	4.6	-7.5	27	7.[illegible]
600	31	4,445	.4	-10.5	27	8.2
550	31	5,137	-4.0	-15.3	27	9.1
500	31	5,883	-8.0	-22.6	28	9.8
450	31	6,695	-13.0	-27.0	28	11.0
400	31	7,582	-18.[illegible]	-32.5	28	10.9
350	31	8,567	-25.6	-39.1	28	12.1
300	31	9,664	-33.9	-46.9	28	13.2
250	31	10,916	-43.6		29	14.3
200	31	12,379	-54.6		28	15.5
175	31	13,224	-59.7		28	15.6
150	31	14,176	-64.5		28	13.[illegible]
125	31	15,281	-67.5		29	9.5
100	31	16,630	-65.0		30	3.6
80	31	18,001	-61.6		04	1.5
70	31	18,833	-59.7		07	2.7
60	30	19,804	-57.0		07	4.7
50	29	20,965	-54.9		08	6.3
40	29	22,398	-53.0		09	[illegible].1
30	28	24,264	-50.3		09	9.[illegible]
25	26	25,458	-48.7		09	10.9
20	2[illegible]	26,934	-45.[illegible]		09	13.2
15	24	28,867	-41.9		09	16.7
10	16	31,632	-35.9		09	17.6
7	6	34,094	-33.[illegible]			

* PITTSBURGH, PA
977 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	359	18.5	16.3	24	1.4
1000						
950	31	598	20.6	16.2	27	4.0
900	31	1,066	18.6	13.6	29	6.[illegible]
850	31	1,554	15.6	9.6	29	7.1
800	31	2,067	13.0	2.8	29	[illegible].0
750	31	2,607	10.2	-2.2	29	8.9
700	31	3,178	7.0	-6.6	29	10.0
650	31	3,784	[illegible].7	-10.[illegible]	29	10.[illegible]
600	31	4,430	.0	-14.4	29	11.4
550	31	5,121	-4.1	-18.0	29	11.8
500	31	5,867	-8.4	-23.3	29	12.2
450	31	6,677	-13.[illegible]	-27.6	29	12.8
400	31	7,564	-19.1	-33.[illegible]	29	13.3
350	31	8,547	-26.3	-38.6	29	15.[illegible]
300	31	9,640	-34.8	-45.8	29	17.[illegible]
250	31	10,887	-44.3		29	18.0
200	31	12,349	-54.[illegible]		29	18.4
175	31	13,195	-58.8		29	19.9
150	31	14,152	-63.4		30	16.8
125	31	15,264	-65.9		30	9.8
100	31	16,622	-64.3		30	5.[illegible]
80	30	17,998	-60.9		02	1.6
70	30	18,833	-58.4		06	3.4
60	30	19,807	-56.[illegible]		08	5.5
50	28	20,968	-55.0		09	7.8
40	27	22,400	-53.0		09	10.[illegible]
30	26	24,270	-49.5		09	11.7
25	26	25,470	-47.5		09	13.1
20	25	26,955	-45.1		09	13.9
15	23	28,890	-41.5		09	17.1
10	14	31,693	-36.8			
7						

+ PONAPE, CAROLINE IS.
1003 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	39	28.8	24.6	07	1.[illegible]
1000	31	69	27.4	23.4	07	2.0
950	31	523	23.8	21.1	09	4.3
900	31	995	20.8	17.[illegible]	09	5.4
850	31	1,488	18.1	14.7	09	[illegible].1
800	31	2,007	15.8	11.5	09	[illegible].4
750	31	2,554	13.2	8.4	09	6.6
700	31	3,132	9.9	4.5	09	7.0
650	31	3,746	6.5	[illegible]	09	7.4
600	31	4,399	2.9	-2.3	09	7.9
550	31	5,100	-.8	-7.4	09	8.3
500	31	5,856	-4.9	-11.7	09	7.7
450	31	6,678	-9.5	-17.[illegible]	09	[illegible].8
400	31	7,579	-14.8	-25.3	09	5.[illegible]
350	31	8,580	-21.6	-33.6	09	4.8
300	31	9,694	-30.0	-41.1	10	3.6
250	31	10,965	-40.3	-48.[illegible]	11	3.8
200	31	12,446	-53.0		13	3.[illegible]
175	31	13,294	-60.1		12	3.3
150	31	14,237	-68.2		13	4.0
125	31	15,312	-75.4		13	4.0
100	31	16,588	-78.7		09	3.5
80	31	17,878	-72.7		09	10.0
70	29	18,667	-69.2		09	12.6
60	29	19,596	-65.7		09	17.3
50	29	20,715	-62.0		09	24.4
40	29	22,107	-58.6		09	30.[illegible]
30	27	23,940	-53.0		09	31.2
25	26	25,125	-49.0		10	20.7
20	26	26,601	-45.9		09	[illegible].5
15	24	28,528	-43.6		10	[illegible].1
10	18	31,258	-40.4		10	10.6
7						

PORTLAND, ME
1014 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	20	17.2	13.4	28	1.6
1000	31	134	18.2	11.9	29	2.9
950	31	575	18.1	9.0	29	4.[illegible]
900	31	1,036	15.3	6.8	28	4.4
850	31	1,518	12.3	3.3	28	4.[illegible]
800	31	2,025	[illegible].5	-1.1	28	6.[illegible]
750	31	2,558	[illegible].8	-5.0	28	7.6
700	31	3,122	3.[illegible]	-9.1	28	[illegible].4
650	31	3,721	.8	-12.4	29	10.7
600	31	4,360	-2.[illegible]	-16.3	29	12.2
550	31	5,044	-6.6	-19.1	29	13.7
500	31	5,783	-11.0	-24.7	29	14.7
450	30	6,585	-16.1	-29.4	28	14.[illegible]
400	30	7,462	-22.1	-35.8	29	16.0
350	30	8,433	-29.0	-41.5	29	18.0
300	30	9,514	-37.3	-47.8	29	21.1
250	30	10,750	-45.9		29	23.[illegible]
200	30	12,210	-53.2		29	24.1
175	30	13,064	-56.2		29	22.6
150	30	14,037	-59.1		28	17.4
125	30	15,175	-60.4		28	14.4
100	30	16,569	-59.1		28	8.5
80	30	17,976	-56.8		30	2.[illegible]
70	30	18,825	-55.7		30	.8
60	30	19,810	-54.5		08	1.7
50	30	20,982	-53.1		09	3.8
40	30	22,427	-51.2		09	6.2
30	30	24,309	-48.[illegible]		09	8.[illegible]
25	29	25,514	-46.6		09	10.4
20	28	27,000	-44.1		09	12.[illegible]
15	27	28,943	-41.1		08	14.[illegible]
10	25	31,730	-35.[illegible]		10	15.[illegible]
7	6	34,225	-30.8			

* QUILLAYUTE, WA
1013 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	58	10.0	9.[illegible]	06	.4
1000	31	165	10.8	[illegible].6	36	.5
950	31	592	9.5	[illegible].3	30	2.[illegible]
900	31	1,041	8.6	[illegible]	27	2.6
850	31	1,513	6.9	-.[illegible]	26	2.9
800	31	2,009	5.2	-6.2	25	3.7
750	31	2,534	2.9	-10.[illegible]	26	4.[illegible]
700	31	3,090	.1	-13.4	25	[illegible].3
650	30	3,682	-3.0	-16.[illegible]	25	7.2
600	30	4,311	-6.7	-22.3	26	8.2
550	30	4,985	-11.0	-26.9	25	[illegible].9
500	30	5,710	-16.0	-30.7	25	9.[illegible]
450	30	6,496	-21.6	-35.3	25	11.[illegible]
400	30	7,353	-27.9	-40.[illegible]	25	13.4
350	30	[illegible],302	-34.7	-44.0	25	15.5
300	30	9,358	-42.9	-47.[illegible]	25	17.5
250	30	10,566	-50.4		25	19.4
200	30	12,013	-52.4		25	18.4
175	29	12,873	-51.9		25	17.5
150	28	13,869	-52.6		25	13.8
125	28	15,044	-53.9		25	11.3
100	27	16,474	-54.1		24	7.0
80	27	17,907	-53.9		22	3.9
70	27	18,766	-53.3		20	[illegible].2
60	27	19,759	-53.1		15	1.7
50	27	20,937	-52.0		10	2.7
40	27	22,386	-50.8		09	5.1
30	26	24,270	-48.4		09	7.6
25	24	25,467	-47.1		09	9.0
20	23	26,953	-44.9		09	10.1
15	21	28,[illegible]	-41.3		09	11.7
10	15	31,675	-36.0		09	14.4
7						

RAPID CITY, SD
906 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	966	16.9	11.2	28	.9
1000						
950						
900	27	1,034	17.5	10.8	28	1.1
850	31	1,514	19.3	6.7	25	3.0
800	31	2,033	16.7	4.3	25	3.8
750	31	2,581	13.4	1.6	26	4.1
700	31	3,157	9.4	-1.5	26	5.0
650	31	3,768	5.2	-4.4	27	6.[illegible]
600	31	4,417	.6	-8.3	27	8.4
550	31	5,109	-4.5	-13.7	27	10.2
500	31	5,853	-9.5	-19.8	26	11.8
450	31	6,659	-14.[illegible]	-25.7	26	12.8
400	31	7,540	-20.8	-32.2	26	14.6
350	31	8,516	-27.9	-38.7	26	17.[illegible]
300	31	9,601	-36.6	-46.7	26	19.2
250	31	10,839	-46.0		25	21.7
200	31	12,292	-55.1		26	24.4
175	31	13,139	-58.1		26	24.2
150	31	14,102	-61.5		26	20.5
125	30	15,226	-63.6		26	13.2
100	30	16,598	-62.3		26	6.5
80	30	17,986	-59.0		25	2.4
70	30	18,827	-57.7		27	.1
60	30	19,803	-56.3		08	2.4
50	30	20,967	-54.4		09	4.6
40	29	22,402	-52.3		09	6.2
30	28	24,278	-49.7		09	8.5
25	28	25,477	-47.7		09	9.7
20	28	26,959	-44.9		09	11.2
15	26	28,897	-42.4		09	12.4
10	22	31,667	-37.0		09	16.4
7	12	34,185	-32.7			

ST CLOUD, MN
978 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	316	16.3	14.4	31	.1
1000						
950	30	567	19.4	13.3	22	1.[illegible]
900	30	1,033	18.1	10.1	26	4.5
850	30	1,521	15.6	6.5	27	6.0
800	30	2,034	13.4	1.8	27	7.[illegible]
750	30	2,575	10.5	-1.6	27	8.7
700	30	3,146	7.1	-5.6	28	9.7
650	30	3,751	3.1	-9.5	28	11.1
600	30	4,395	-1.1	-13.8	27	11.[illegible]
550	30	5,083	-5.[illegible]	-19.3	27	12.6
500	30	5,825	-10.2	-23.5	28	13.7
450	30	6,629	-15.[illegible]	-28.2	28	15.2
400	30	7,509	-21.2	-35.1	28	17.[illegible]
350	30	8,484	-28.1	-40.3	28	19.1
300	30	9,569	-36.3	-47.6	28	22.2
250	30	10,809	-45.[illegible]		28	25.8
200	29	12,260	-54.7		27	27.4
175	29	13,107	-58.2		28	25.1
150	29	14,073	-60.2		28	19.8
125	29	15,206	-61.4		27	15.5
100	29	16,590	-60.[illegible]		27	8.6
80	29	17,985	-58.[illegible]		29	3.4
70	29	18,828	-56.[illegible]		32	1.1
60	29	19,807	-55.7		06	1.5
50	29	20,974	-53.3		08	3.[illegible]
40	29	22,416	-51.[illegible]		08	5.8
30	28	24,292	-49.2		09	8.[illegible]
25	28	25,492	-47.4		09	9.[illegible]
20	27	26,977	-45.0		09	10.6
15	25	28,912	-41.[illegible]		09	12.4
10	21	31,698	-36.7		08	14.1
7	5	34,182	-33.7			

* ST PAUL ISLAND, AK
1012 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	10	8.1	[illegible]	23	.8
1000	29	116	7.9	[illegible].9	21	1.3
950	31	528	6.6	3.[illegible]	19	1.6
900	31	972	5.1	1.4	17	1.[illegible]
850	31	1,437	3.3	-1.[illegible]	17	1.[illegible]
800	31	1,927	1.1	-4.6	16	2.2
750	31	2,444	-1.6	-7.8	18	1.8
700	31	2,991	-4.5	-11.5	21	1.8
650	31	3,571	-7.5	-15.[illegible]	20	1.[illegible]
600	31	4,191	-10.8	-21.0	22	2.3
550	31	4,855	-15.0	-25.4	23	2.[illegible]
500	31	5,569	-19.7	-30.6	23	3.1
450	31	6,343	-24.8	-36.[illegible]	24	3.5
400	31	7,190	-31.0	-41.1	26	5.4
350	31	8,126	-37.7	-44.3	26	[illegible].5
300	31	9,171	-44.3		26	9.3
250	31	10,380	-48.4		26	12.7
200	31	11,853	-46.6		27	8.6
175	31	12,739	-46.6		27	7.7
150	31	13,761	-47.4		27	6.7
125	31	14,962	-48.7		28	4.9
100	31	16,426	-49.7		28	3.0
80	31	17,888	-49.3		32	1.2
70	31	18,764	-49.1		03	1.0
60	31	19,777	-48.7		07	1.8
50	30	20,980	-48.2		08	3.1
40	29	22,453	-47.8		08	4.4
30	29	24,357	-46.4		08	6.7
25	28	25,573	-45.5		09	7.3
20	26	27,068	-43.3		08	8.2
15	26	29,020	-39.9		08	9.7
10	21	31,815	-35.1		08	11.7
7	14	34,329	-30.0		08	15.3

SALEM, IL
997 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	174	20.9	19.6	12	.6
1000	6	177	19.5	17.2		
950	31	597	23.[illegible]	16.7	25	2.5
900	31	1,068	20.6	14.2	26	3.[illegible]
850	31	1,560	17.9	8.8	26	4.[illegible]
800	31	2,078	15.1	5.3	27	4.4
750	31	2,622	12.1	.2	27	5.1
700	31	3,196	8.7	-4.3	26	[illegible].0
650	31	3,806	4.[illegible]	-7.8	26	[illegible].4
600	31	4,454	.[illegible]	-10.6	26	6.[illegible]
550	31	5,147	-3.4	-15.4	26	7.1
500	31	5,895	-7.6	-22.4	26	7.2
450	31	6,709	-12.0	-27.4	26	7.5
400	31	7,600	-17.9	-32.0	27	7.[illegible]
350	31	8,588	-24.[illegible]	-38.5	28	9.[illegible]
300	31	9,688	-33.0	-46.4	28	10.3
250	31	10,943	-43.1		28	12.[illegible]
200	31	12,409	-54.6		28	12.2
175	30	13,252	-60.3		28	11.4
150	30	14,201	-65.[illegible]		29	[illegible].7
125	30	15,300	-68.[illegible]		30	[illegible]
100	30	16,644	-66.2		33	[illegible].7
80	29	18,008	-62.[illegible]		06	2.8
70	29	18,838	-59.8		08	4.2
60	29	19,806	-57.5		08	6.[illegible]
50	29	20,966	-55.[illegible]		09	7.[illegible]
40	29	22,398	-53.0		09	[illegible].2
30	29	24,266	-50.3		09	10.8
25	28	25,463	-48.2		09	12.3
20	27	26,943	-45.7		09	13.8
15	26	28,873	-42.4		09	17.0
10	22	31,645	-37.9		09	19.[illegible]
7	13	34,131	-33.[illegible]		09	22.1

SALEM, OR
1012 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	61	11.8	[illegible].0	29	.7
1000	31	161	13.5	9.8	34	[illegible].2
950	31	593	12.3	8.3	01	2.8
900	31	1,046	11.4	[illegible]	35	[illegible].4
850	31	1,523	9.7	2.[illegible]	28	2.[illegible]
800	31	2,026	8.4	-3.[illegible]	26	3.6
750	31	2,557	6.2	-7.1	26	5.0
700	31	3,120	3.3	-11.5	26	6.3
650	31	3,718	.2	-15.1	25	8.1
600	31	4,354	-3.8	-18.[illegible]	25	10.[illegible]
550	31	5,0[illegible]	-8.0	-21.4	25	11.7
500	31	5,770	-12.9	-25.[illegible]	25	13.0
450	31	6,565	-18.3	-31.2	25	14.9
400	31	7,433	-24.8	-35.[illegible]	25	16.0
350	31	8,394	-31.9	-42.[illegible]	25	18.[illegible]
300	31	9,461	-40.3	-48.[illegible]	25	20.4
250	31	10,681	-49.0		25	22.6
200	31	12,124	-55.1		25	22.0
175	31	12,976	-55.0		25	20.4
150	31	13,961	-55.2		25	17.4
125	31	15,121	-56.7		25	14.2
100	31	16,535	-56.5		24	8.0
80	31	17,951	-56.1		23	3.6
70	30	18,800	-55.2		21	1.[illegible]
60	30	19,786	-54.4		13	2.0
50	30	20,958	-53.4		11	3.9
40	29	22,401	-51.7		09	[illegible].7
30	29	24,277	-49.4		09	8.4
25	27	25,475	-47.4		09	[illegible].7
20	27	26,959	-45.1		09	10.7
15	27	28,894	-42.0		09	13.[illegible]
10	23	31,675	-36.5		09	15.3
7	7	34,167	-31.9			

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UT
872 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,288	19.4	7.7	16	3.3
1000						
950						
900						
850	31	1,505	21.5	5.2	17	4.4
800	31	2,029	19.4	1.6	18	4.8
750	31	2,581	15.8	-1.2	21	4.0
700	31	3,161	11.4	-4.2	24	5.3
650	31	3,776	6.6	-7.1	25	6.7
600	31	4,427	1.3	-10.3	25	7.[illegible]
550	31	5,120	-4.5	-13.4	24	[illegible]
500	31	5,862	-10.2	-19.0	24	9.9
450	31	6,667	-15.2	-27.1	24	11.5
400	31	7,546	-21.[illegible]	-33.9	24	13.8
350	31	8,520	-28.5	-40.4	24	16.1
300	31	9,603	-36.9	-47.6	24	18.2
250	31	10,840	-46.1		24	22.2
200	31	12,292	-55.4		24	26.1
175	31	13,136	-59.4		24	25.3
150	31	14,093	-62.[illegible]		25	20.6
125	31	15,208	-65.2		25	11.8
100	31	16,568	-64.3		23	5.8
80	31	17,943	-60.7		21	1.2
70	31	18,778	-58.9		10	2.0
60	31	19,749	-57.4		10	4.7
50	30	20,906	-55.4		09	5.7
40	29	22,336	-53.4		09	8.3
30	28	24,202	-50.3		09	10.5
25	28	25,397	-48.4		09	11.0
20	28	26,875	-45.[illegible]		09	13.4
15	26	28,807	-42.8		09	15.6
10	24	31,569	-37.6		09	18.1
7	9	34,044	-33.[illegible]			

SAN DIEGO, CA
999 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	124	17.4	15.6	29	.7
1000	7	125	16.4	14.7		
950	31	554	19.8	8.1	36	.4
900	31	1,023	23.8	1.9	30	1.0
850	31	1,521	22.6	.1	26	2.3
800	31	2,046	19.7	-2.0	24	2.6
750	31	2,597	16.0	-3.6	20	3.9
700	31	3,178	11.4	-5.4	19	4.3
650	31	3,792	7.0	-8.8	18	4.2
600	31	4,445	2.3	-13.0	17	3.8
550	31	5,141	-2.6	-17.[illegible]	19	3.2
500	31	5,890	-7.9	-23.1	19	3.4
450	31	6,701	-12.8	-30.0	20	3.9
400	31	7,588	-19.2	-36.2	21	4.[illegible]
350	31	8,570	-26.4	-41.[illegible]	21	6.5
300	30	9,664	-34.6	-48.9	21	9.2
250	30	10,913	-43.9		21	11.6
200	30	12,378	-53.9		21	14.2
175	30	13,225	-59.4		20	15.6
150	30	14,177	-65.3		21	12.4
125	30	15,275	-69.4		22	6.8
100	29	16,612	-67.4		11	1.3
80	29	17,964	-65.1		09	4.7
70	29	18,782	-62.8		10	6.7
60	29	19,739	-60.[illegible]		10	7.7
50	28	20,882	-57.[illegible]		09	9.6
40	26	22,297	-55.6		09	12.4
30	25	24,142	-52.7		09	14.1
25	25	25,325	-50.7		09	16.[illegible]
20	24	26,788	-48.2		09	17.1
15	24	28,697	-44.8		09	18.9
10	24	31,442	-39.2		09	23.9
7	12	33,912	-36.1			

SAN JUAN, P. R.
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	6	24.9	23.0	11	2.2
1000	31	152	24.3	21.6	11	4.6
950	31	602	21.4	18.9	11	[illegible].4
900	31	1,070	18.5	15.4	11	9.1
850	31	1,558	15.4	11.1	11	8.5
800	31	2,071	13.4	4.1	11	7.9
750	31	2,612	10.6	-.5	11	7.2
700	31	3,183	7.0	-4.3	11	6.3
650	31	3,789	3.5	-9.2	12	5.2
600	31	4,434	-.1	-14.2	11	4.9
550	31	5,127	-3.2	-20.4	10	[illegible].8
500	31	5,875	-7.3	-25.[illegible]	11	2.7
450	31	6,688	-12.4	-29.9	12	2.0
400	31	7,577	-18.7	-35.0	16	1.7
350	31	8,561	-26.0	-39.9	24	2.6
300	31	9,654	-34.8	-46.[illegible]	26	5.0
250	31	10,900	-45.1		27	7.5
200	31	12,353	-56.3		28	8.8
175	31	13,191	-61.4		28	[illegible].2
150	31	14,139	-65.0		28	5.6
125	31	15,242	-68.3		21	[illegible].1
100	31	16,564	-73.1		10	5.6
80	31	17,877	-70.5		10	12.4
70	31	18,677	-67.3		10	16.1
60	30	19,613	-64.6		11	19.6
50	30	20,739	-60.3		11	22.0
40	30	22,139	-57.7		11	23.2
30	29	23,967	-54.2		11	24.4
25	29	25,142	-52.2		10	24.9
20	29	26,595	-49.5		10	25.2
15	26	28,496	-45.3		11	25.5
10	16	31,223	-41.0		10	26.9
7	8	33,660	-37.6			

* SAULT STE MARIE, MI
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	221	13.8	12.8	21	.4
1000						
950	31	562	16.4	11.8	26	3.0
900	31	1,023	15.9	8.8	27	5.4
850	31	1,507	13.3	5.7	28	6.4
800	31	2,015	10.3	1.5	28	7.3
750	31	2,550	7.9	-4.6	28	9.4
700	31	3,116	4.7	-6.7	28	11.1
650	31	3,717	1.5	-11.9	28	12.1
600	31	4,357	-2.5	-14.9	28	13.3
550	31	5,043	-6.5	-20.8	28	14.5
500	31	5,781	-11.2	-24.8	28	15.6
450	31	6,582	-16.4	-30.2	28	16.6
400	31	7,457	-22.6	-35.4	28	18.0
350	31	8,427	-29.5	-41.8	28	20.3
300	31	9,506	-37.2	-47.9	28	22.5
250	31	10,744	-45.7		28	26.3
200	31	12,204	-53.0		28	29.6
175	31	13,060	-55.5		29	27.1
150	31	14,038	-57.9		28	21.6
125	31	15,184	-59.1		28	16.[illegible]
100	31	16,586	-58.2		29	10.6
80	31	17,998	-56.1		29	4.[illegible]
70	31	18,849	-55.1		31	2.8
60	31	19,837	-53.7		36	1.3
50	31	21,013	-52.3		07	3.0
40	31	22,461	-50.7		08	[illegible].3
30	31	24,348	-47.9		09	[illegible].0
25	31	25,556	-46.1		08	9.0
20	30	27,050	-43.8		08	10.3
15	30	28,995	-40.7		09	12.5
10	26	31,786	-35.7		09	15.0
7	10	34,268	-30.[illegible]			

SPOKANE, WA
932 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	720	13.6	4.9	17	2.6
1000						
950						
900	31	1,018	16.1	3.6	21	4.0
850	31	1,502	14.1	.3	23	3.9
800	31	2,011	10.2	-1.6	23	4.1
750	31	2,543	6.1	-3.6	24	4.7
700	31	3,105	2.3	-8.0	24	6.0
650	31	3,700	-1.2	-12.0	25	7.9
600	31	4,334	-5.3	-15.5	25	10.3
550	31	5,012	-9.6	-20.0	25	12.7
500	31	5,741	-14.5	-25.8	25	13.7
450	31	6,531	-19.8	-29.5	25	16.0
400	31	7,395	-25.8	-36.[illegible]	25	17.6
350	31	8,352	-32.8	-41.7	25	20.5
300	31	9,417	-40.5	-48.7	24	23.3
250	31	10,638	-48.7		24	27.0
200	31	12,083	-54.1		24	25.5
175	31	12,941	-53.5		24	22.7
150	31	13,933	-53.7		24	17.[illegible]
125	31	15,102	-54.9		24	13.3
100	31	16,526	-55.5		24	8.1
80	31	17,950	-54.9		23	4.3
70	31	18,806	-54.3		22	2.0
60	31	19,797	-53.1		12	.9
50	31	20,975	-52.2		10	3.5
40	31	22,423	-51.0		09	4.4
30	30	24,307	-48.3		09	7.[illegible]
25	28	25,509	-46.9		09	8.1
20	27	26,997	-44.9		09	9.5
15	26	28,938	-41.5		09	11.7
10	24	31,722	-36.1		09	13.6
7	15	34,209	-32.2		09	15.1

TAMPA BAY, FL
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	13	22.7	22.0	10	1.5
1000	31	164	25.[illegible]	21.7	12	2.4
950	31	615	23.0	18.5	14	2.6
900	31	1,085	20.1	15.5	14	2.4
850	31	1,577	17.1	11.8	13	2.[illegible]
800	31	2,093	14.3	7.9	12	2.6
750	31	2,636	11.2	4.0	11	2.6
700	31	3,209	7.8	-.1	10	2.2
650	31	3,817	4.4	-5.5	10	1.9
600	31	4,465	.6	-9.0	09	2.1
550	31	5,159	-3.[illegible]	-15.3	09	2.3
500	31	5,907	-7.5	-19.8	09	2.6
450	31	6,720	-12.4	-24.9	08	3.4
400	31	7,610	-18.3	-30.8	07	4.2
350	31	8,596	-25.5	-36.7	07	5.4
300	31	9,693	-33.[illegible]	-45.7	07	6.6
250	31	10,945	-43.[illegible]		07	[illegible]
200	31	12,407	-55.1		07	9.9
175	31	13,248	-60.9		06	10.2
150	31	14,193	-66.4		07	10.9
125	31	15,286	-70.3		07	9.[illegible]
100	31	16,613	-69.2		08	7.[illegible]
80	30	17,956	-66.9		08	8.3
70	30	18,767	-64.6		08	11.5
60	30	19,716	-61.7		09	14.3
50	30	20,853	-58.7		09	16.4
40	30	22,265	-55.7		10	17.6
30	30	24,114	-52.1		09	17.7
25	29	25,300	-50.4		09	17.8
20	29	26,765	-48.0		09	19.7
15	29	28,675	-44.9		08	23.7
10	25	31,410	-40.7		09	27.5
7	14	33,850	-36.7			

TOPEKA, KS
985 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	268	21.4	18.1	14	1.[illegible]
1000						
950	31	582	23.[illegible]	17.1	21	5.4
900	31	1,056	22.7	14.[illegible]	22	5.6
850	31	1,552	19.7	11.1	22	5.3
800	31	2,072	16.8	7.6	24	4.5
750	31	2,620	13.[illegible]	2.9	24	4.4
700	31	3,197	9.8	-1.6	25	4.2
650	31	3,809	6.0	-5.8	25	3.7
600	31	4,459	1.7	-9.5	25	4.0
550	31	5,155	-2.7	-14.8	26	3.7
500	31	5,905	-7.0	-21.8	27	5.0
450	30	6,721	-11.9	-27.6	27	5.5
400	30	7,613	-17.7	-33.6	27	[illegible].7
350	30	8,601	-24.8	-38.6	27	7.6
300	29	9,700	-33.3	-45.4	28	9.5
250	28	10,951	-43.3		28	13.2
200	28	12,417	-54.3		28	14.3
175	28	13,263	-59.8		28	13.2
150	28	14,214	-64.7		28	10.3
125	28	15,315	-68.7		28	5.8
100	28	16,653	-66.[illegible]		29	2.[illegible]
80	28	18,018	-62.5		07	1.9
70	28	18,848	-59.8		08	3.5
60	27	19,813	-57.8		08	4.7
50	27	20,969	-55.4		09	7.3
40	27	22,401	-53.0		09	[illegible].3
30	26	24,266	-50.6		09	11.[illegible]
25	26	25,459	-48.9		09	12.4
20	22	26,941	-45.8		09	13.[illegible]
15	21	28,874	-42.0		09	16.6
10	12	31,639	-37.1			
7						

TRUK, CAROLINE IS. +
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	2	28.6	24.[illegible]	08	2.2
1000	31	83	27.5	24.3	08	2.6
950	31	537	24.0	21.8	09	3.[illegible]
900	31	1,010	20.9	18.3	10	5.0
850	31	1,503	18.0	15.[illegible]	10	[illegible].6
800	31	2,022	15.6	12.1	09	5.3
750	31	2,569	13.2	[illegible].4	09	6.0
700	31	3,147	10.1	4.[illegible]	09	6.4
650	31	3,761	6.6	1.[illegible]	09	7.0
600	31	4,415	2.8	-1.[illegible]	09	[illegible].0
550	31	5,115	-1.0	-6.7	09	7.9
500	31	5,871	-4.8	-11.2	09	[illegible]
450	31	6,694	-9.4	-17.0	09	6.[illegible]
400	31	7,596	-14.7	-25.0	08	5.[illegible]
350	31	8,597	-21.4	-32.6	09	5.3
300	31	9,712	-30.0	-41.[illegible]	10	4.5
250	31	10,983	-40.2	-50.5	09	[illegible].0
200	31	12,464	-53.1		08	2.7
175	31	13,311	-60.2		07	3.0
150	31	14,254	-68.1		08	[illegible].4
125	31	15,329	-75.7		10	4.2
100	31	16,601	-79.1		08	5.4
80	31	17,894	-71.8		09	11.7
70	31	18,688	-68.6		09	14.4
60	31	19,618	-65.8		09	18.0
50	31	20,736	-62.2		09	24.[illegible]
40	31	22,126	-58.8		09	30.[illegible]
30	28	23,957	-53.0		09	31.7
25	27	25,145	-49.0		10	22.4
20	26	26,620	-45.7		10	11.9
15	26	28,545	-43.5		10	8.7
10	16	31,289	-40.0		10	13.9
7						

* TUCSON, AZ
924 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	789	25.6	15.6	15	2.3
1000						
950						
900	31	1,025	26.1	13.4	18	1.[illegible]
850	31	1,527	23.3	9.9	31	.7
800	31	2,053	19.6	8.2	34	1.[illegible]
750	31	2,605	15.6	5.7	01	1.4
700	31	3,187	11.1	3.5	07	1.3
650	31	3,802	6.[illegible]	.7	11	2.2
600	31	4,454	1.7	-3.0	13	2.7
550	31	5,150	-2.9	-8.5	14	2.7
500	31	5,900	-7.5	-14.5	12	2.1
450	31	6,714	-11.7	-22.7	13	1.7
400	31	7,606	-17.7	-30.5	14	1.4
350	31	8,595	-24.7	-35.7	19	1.8
300	31	9,696	-33.0	-42.8	19	3.2
250	31	10,952	-43.[illegible]		18	4.6
200	31	12,417	-55.[illegible]		19	5.3
175	30	13,255	-60.9		21	5.[illegible]
150	30	14,200	-66.9		20	2.3
125	30	15,288	-71.3		17	1.8
100	28	16,608	-69.3		08	2.7
80	28	17,953	-65.5		09	5.5
70	28	18,771	-62.9		09	7.5
60	28	19,726	-60.5		09	9.1
50	28	20,869	-57.8		09	11.[illegible]
40	28	22,284	-55.6		09	12.7
30	27	24,132	-52.4		09	14.7
25	26	25,316	-50.4		09	16.0
20	26	26,781	-47.8		09	17.4
15	24	28,700	-44.0		09	20.3
10	20	31,455	-39.4		09	24.[illegible]
7	6	33,937	-35.5			

* VANDENBERG AFB, CA
1003 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	100	11.3	10.[illegible]	32	.8
1000	31	123	11.5	10.6	34	1.1
950	31	558	19.3	4.9	01	3.[illegible]
900	31	1,027	22.6	1.3	01	3.9
850	31	1,522	20.4	-1.2	36	2.4
800	31	2,042	17.7	-3.7	31	1.3
750	31	2,590	14.5	-6.1	26	1.8
700	31	3,168	10.6	-8.6	25	2.1
650	31	3,781	6.7	-13.4	24	3.1
600	31	4,433	2.1	-17.6	23	[illegible].6
550	31	5,128	-2.9	-21.3	22	4.5
500	31	5,875	-8.2	-25.4	23	[illegible].2
450	31	6,685	-13.9	-30.8	22	7.4
400	31	7,568	-20.6	-36.[illegible]	22	7.[illegible]
350	31	8,545	-28.1	-42.6	22	10.1
300	31	9,629	-36.3	-49.7	23	13.0
250	31	10,869	-45.5		22	15.0
200	31	12,326	-54.5		22	18.3
175	31	13,174	-58.7		22	17.4
150	31	14,131	-63.3		22	15.1
125	30	15,240	-66.5		23	10.1
100	28	16,591	-65.7		21	2.1
80	27	17,952	-63.7		11	3.0
70	27	18,775	-62.1		10	4.2
60	27	19,734	-59.8		10	6.3
50	27	20,879	-57.7		09	7.7
40	26	22,297	-55.2		09	10.[illegible]
30	25	24,147	-52.5		09	12.8
25	25	25,330	-50.6		09	14.7
20	24	26,794	-48.0		09	15.[illegible]
15	19	28,711	-44.6		09	16.9
10	17	31,451	-39.4		09	20.8
7	[illegible]	33,903	-35.4			

VICTORIA, TX
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	33	23.7	22.5	17	.[illegible]
1000	31	139	25.3	24.4	19	3.2
950	31	590	23.0	20.3	19	7.4
900	31	1,062	20.8	14.4	18	6.7
850	31	1,555	18.4	9.6	18	5.4
800	31	2,073	15.5	5.7	17	[illegible].7
750	31	2,618	12.3	2.1	15	4.0
700	31	3,193	[illegible].7	-.3	14	3.6
650	31	3,803	5.3	-4.3	13	3.2
600	31	4,452	1.3	-7.6	12	3.3
550	31	5,148	-2.7	-14.9	11	3.8
500	31	5,898	-7.0	-20.6	10	3.7
450	31	6,712	-12.0	-25.7	10	4.2
400	31	7,603	-17.[illegible]	-31.3	09	4.8
350	31	8,591	-24.[illegible]	-38.4	09	[illegible].4
300	31	9,691	-33.[illegible]	-46.8	09	[illegible].4
250	31	10,946	-43.2		09	7.6
200	31	12,411	-54.8		09	9.1
175	31	13,253	-61.0		09	9.[illegible]
150	31	14,197	-66.[illegible]		09	10.1
125	31	15,286	-71.0		09	8.2
100	31	16,609	-69.8		09	7.7
80	31	17,950	-65.[illegible]		10	8.0
70	31	18,766	-63.6		09	9.0
60	31	19,718	-61.5		09	10.6
50	31	20,854	-59.3		09	13.8
40	30	22,262	-55.7		09	15.2
30	28	24,110	-52.3		09	16.[illegible]
25	24	25,297	-50.1		09	18.1
20	21	26,758	-48.4		09	19.5
15	18	28,668	-44.8		09	22.4
10	13	31,415	-40.2		09	26.1
7						

* WAKE IS., PACIFIC AREA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	27.[illegible]	23.8	08	5.6
1000	31	125	26.5	22.5	09	[illegible].5
950	31	577	22.7	20.1	09	7.8
900	31	1,047	19.6	15.8	09	7.5
850	31	1,538	16.5	12.8	10	7.1
800	31	2,053	13.8	8.9	09	6.6
750	31	2,596	11.7	1.5	09	5.7
700	31	3,170	9.0	-6.5	09	4.7
650	31	3,781	5.9	-10.9	09	3.9
600	31	4,431	[illegible].1	-14.9	08	3.6
550	31	5,128	-2.2	-19.1	07	3.7
500	31	5,879	-6.4	-22.8	07	3.[illegible]
450	31	6,695	-11.[illegible]	-27.0	05	3.2
400	31	7,588	-17.5	-33.6	04	3.2
350	31	8,577	-24.8	-40.0	01	2.6
300	31	9,676	-33.4	-46.6	34	2.6
250	31	10,930	-43.4		29	3.8
200	31	12,393	-55.1		28	5.8
175	31	13,234	-61.5		28	7.[illegible]
150	31	14,175	-67.8		27	9.0
125	31	15,258	-72.7		30	[illegible]
100	31	16,565	-72.5		06	3.8
80	31	17,887	-69.5		08	10.1
70	31	18,688	-67.0		09	13.6
60	31	19,626	-64.2		09	16.[illegible]
50	31	20,751	-61.1		09	20.3
40	31	22,146	-58.2		09	22.5
30	31	23,975	-54.5		09	22.9
25	31	25,148	-52.7		09	24.3
20	29	26,595	-50.4		09	25.6
15	27	28,487	-47.1		09	26.1
10	24	31,204	-42.7		09	26.7
7	16	33,637	-40.0			

* WALLOPS ISLAND, VA NASA
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	4	23.4	20.4	29	.5
1000	31	154	24.2	19.6	30	1.5
950	31	604	22.9	15.1	31	2.[illegible]
900	31	1,074	20.1	12.4	31	[illegible].4
850	31	1,565	17.1	8.1	30	4.[illegible]
800	31	2,081	14.2	4.9	30	6.2
750	31	2,623	11.3	.[illegible]	29	7.4
700	31	3,197	8.5	-2.6	29	8.[illegible]
650	31	3,806	4.8	-5.[illegible]	29	9.[illegible]
600	31	4,455	1.1	-11.1	29	9.0
550	31	5,150	-2.9	-16.4	29	8.8
500	31	5,898	-7.2	-21.[illegible]	29	8.9
450	31	6,713	-11.9	-27.9	29	[illegible].7
400	31	7,604	-17.9	-33.[illegible]	29	[illegible]
350	31	8,592	-25.0	-38.7	30	10.6
300	31	9,690	-33.6	-45.[illegible]	30	10.3
250	31	10,943	-43.5		30	12.1
200	31	12,409	-54.0		30	12.3
175	31	13,256	-59.0		30	13.1
150	31	14,210	-64.5		30	10.3
125	31	15,314	-68.0		30	6.5
100	31	16,662	-65.7		32	4.4
80	31	18,031	-61.6		05	2.2
70	31	18,864	-59.3		08	3.2
60	31	19,834	-57.6		09	[illegible].6
50	30	20,992	-55.4		09	[illegible].2
40	30	22,422	-53.3		09	10.[illegible]
30	29	24,293	-49.3		09	13.0
25	29	25,494	-47.5		09	13.3
20	29	26,976	-45.1		09	14.5
15	28	28,911	-42.0		09	18.5
10	21	31,689	-37.0		09	19.[illegible]
7	9	34,200	-33.0			

WASHINGTON DULLES INT. AP
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	85	19.3	17.0	27	.8
1000	31	152	21.0	17.3	28	1.2
950	31	598	21.5	13.8	30	4.2
900	31	1,066	18.[illegible]	10.9	30	5.6
850	31	1,554	15.8	7.6	31	[illegible].8
800	31	2,068	13.2	2.8	30	6.[illegible]
750	31	2,609	10.6	-2.1	29	7.5
700	31	3,180	7.8	-6.2	29	8.2
650	31	3,788	4.4	-9.6	28	9.0
600	31	4,435	.[illegible]	-13.6	28	9.6
550	30	5,128	-3.8	-16.8	29	10.2
500	30	5,875	-7.[illegible]	-22.4	29	[illegible].6
450	30	6,686	-13.1	-27.7	29	[illegible]
400	30	7,574	-18.6	-33.2	29	10.9
350	30	8,559	-25.7	-38.9	29	11.3
300	30	9,654	-34.2	-46.8	29	12.[illegible]
250	30	10,904	-44.1		29	13.5
200	29	12,364	-54.6		29	14.3
175	29	13,210	-59.3		29	15.1
150	29	14,164	-64.1		30	12.9
125	29	15,270	-67.7		29	[illegible]
100	29	16,620	-65.0		29	4.0
80	29	17,991	-61.8		01	2.3
70	29	18,823	-59.4		06	3.1
60	29	19,792	-57.5		08	4.1
50	29	20,950	-55.3		08	7.5
40	29	22,382	-53.1		09	[illegible].2
30	27	24,247	-49.[illegible]		09	10.7
25	26	25,443	-48.0		09	11.6
20	26	26,923	-45.7		09	14.0
15	26	28,854	-42.3		09	16.7
10	19	31,626	-37.9		09	18.9
7						

WAYCROSS, GA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	44	22.1	21.2	23	.6
1000	31	158	24.0	22.1	25	1.2
950	31	609	23.7	18.2	27	2.2
900	31	1,081	21.1	14.8	25	1.1
850	31	1,574	17.8	12.1	12	.5
800	31	2,091	14.5	7.[illegible]	11	.7
750	31	2,634	11.5	2.9	13	.6
700	31	3,208	8.2	-2.0	16	.6
650	31	3,817	4.9	-5.9	09	.3
600	31	4,466	1.1	-10.1	16	.3
550	31	5,161	-2.7	-14.[illegible]	10	.6
500	31	5,911	-7.0	-19.6	09	1.2
450	31	6,725	-11.8	-24.8	07	1.8
400	31	7,617	-17.8	-31.8	07	2.8
350	31	8,606	-24.7	-37.5	06	3.8
300	31	9,706	-33.0	-45.0	06	4.6
250	31	10,962	-43.0		06	5.4
200	31	12,429	-54.5		06	5.9
175	31	13,272	-60.7		05	6.7
150	31	14,217	-66.3		05	7.8
125	31	15,310	-70.2		07	6.5
100	31	16,638	-69.1		06	4.2
80	31	17,986	-65.2		08	6.5
70	31	18,805	-62.5		08	9.3
60	30	19,760	-60.2		08	12.1
50	30	20,906	-57.2		09	13.6
40	30	22,327	-54.2		09	14.0
30	30	24,189	-50.4		09	14.5
25	29	25,384	-49.1		09	15.2
20	28	26,855	-47.2		08	17.7
15	25	28,778	-43.1		09	21.6
10	17	31,541	-38.9		09	24.5
7	7	34,002	-35.4			

RAWINSONDE DATA

Average monthly values

WEST PALM BEACH, FL
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	7	24.3	22.5	09	.7
1000	31	164	26.0	22.8	12	1.9
950	31	615	22.4	19.3	13	3.5
900	31	1,084	19.6	15.4	13	3.5
850	31	1,575	16.8	11.5	11	3.[illegible]
800	31	2,091	14.0	7.4	11	2.9
750	31	2,633	11.0	3.1	11	2.4
700	31	3,206	8.1	-1.6	10	2.2
650	31	3,814	4.5	-5.6	10	2.3
600	31	4,462	.8	-9.9	10	2.5
550	31	5,156	-3.2	-17.2	11	2.5
500	31	5,905	-7.4	-20.3	10	2.9
450	31	6,718	-12.3	-26.2	08	3.6
400	31	7,608	-18.3	-31.4	07	4.1
350	31	8,594	-25.5	-37.6	06	5.5
300	31	9,691	-33.8	-45.7	06	7.2
250	31	10,943	-43.7		06	9.4
200	31	12,406	-54.9		06	12.0
175	31	13,249	-60.4		06	12.5
150	31	14,197	-65.6		06	12.1
125	31	15,295	-69.2		07	9.3
100	31	16,629	-68.6		08	6.2
80	31	17,973	-65.8		08	[illegible]
70	31	18,789	-63.6		08	12.0
60	31	19,740	-61.2		08	15.0
50	30	20,880	-58.3		09	17.5
40	30	22,295	-55.1		10	19.4
30	29	24,153	-51.0		10	19.6
25	29	25,347	-48.3		09	19.5
20	28	26,827	-45.7		09	20.0
15	23	28,758	-43.7		09	23.0
10	17	31,509	-39.1		09	28.5
7	6	33,929	-36.0			

WINNEMUCCA, NV
870 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	1,312	15.5	.7	34	.4
1000						
950						
900						
850	31	1,509	20.3	1.3	01	1.1
800	31	2,030	17.9	-1.2	32	1.4
750	31	2,578	13.9	-3.5	28	2.4
700	31	3,155	9.5	-6.7	25	4.0
650	31	3,765	5.0	-8.9	24	6.7
600	31	4,412	.5	-12.5	23	10.8
550	31	5,104	-4.6	-16.0	23	13.4
500	31	5,847	-10.0	-22.1	24	12.8
450	29	6,654	-15.4	-29.4	24	13.2
400	28	7,531	-21.9	-35.8	25	13.8
350	27	8,504	-29.1	-42.3	24	15.1
300	27	9,583	-37.6	-49.7	24	17.4
250	27	10,817	-46.7		24	20.3
200	27	12,269	-55.0		23	25.2
175	26	13,118	-58.3		23	24.4
150	26	14,083	-60.5		24	20.8
125	26	15,212	-62.9		25	13.8
100	25	16,588	-61.9		24	5.7
80	25	17,972	-60.3		21	1.4
70	25	18,809	-58.4		12	[illegible].0
60	25	19,783	-56.6		11	3.4
50	25	20,945	-54.6		09	5.5
40	25	22,380	-53.1		09	7.2
30	24	24,243	-50.7		09	10.3
25	24	25,437	-48.4		09	11.2
20	23	26,912	-45.[illegible]		09	13.4
15	22	28,840	-43.0		09	15.0
10	13	31,593	-37.5			
7						

WINSLOW, AZ
854 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	1,487	19.1	11.2	18	1.6
1000						
950						
900						
850	31	1,528	20.6	9.8	20	2.2
800	31	2,054	20.4	7.1	25	3.7
750	31	2,608	16.7	3.5	29	3.2
700	31	3,191	12.2	1.4	27	1.6
650	31	3,808	7.3	-1.2	25	1.4
600	31	4,461	2.1	-4.4	22	1.[illegible]
550	31	5,157	-2.9	-8.[illegible]	20	1.9
500	31	5,907	-7.4	-14.[illegible]	19	2.5
450	31	6,720	-12.3	-23.1	24	2.9
400	31	7,610	-18.3	-32.4	24	3.9
350	31	8,596	-25.4	-38.3	24	5.6
300	31	9,694	-33.6	-45.0	23	8.2
250	31	10,948	-43.5		22	9.1
200	31	12,411	-55.0		23	10.6
175	31	13,253	-60.8		23	10.3
150	31	14,198	-67.0		23	7.5
125	31	15,288	-70.5		23	3.8
100	31	16,616	-68.8		13	1.2
80	30	17,968	-64.1		10	[illegible].6
70	29	18,793	-61.9		09	6.0
60	29	19,752	-59.7		09	7.7
50	29	20,900	-57.1		09	8.7
40	29	22,320	-54.8		09	10.[illegible]
30	29	24,175	-51.7		09	13.3
25	29	25,363	-49.7		09	14.1
20	28	26,833	-46.5		09	14.4
15	26	28,755	-43.1		09	18.0
10	23	31,514	-38.3		09	22.9
7	8	33,978	-34.5			

YAKUTAT, AK
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	12	11.2	10.3	07	1.1
1000	31	136	11.9	9.8	10	1.5
950	31	565	10.3	6.9	14	2.1
900	31	1,014	8.4	3.2	15	2.0
850	31	1,484	6.0	1.2	14	2.1
800	31	1,978	3.[illegible]	-1.9	13	2.2
750	31	2,499	.5	-4.4	13	2.3
700	31	3,049	-3.3	-8.1	13	2.1
650	31	3,632	-6.8	-12.7	13	1.9
600	31	4,252	-10.9	-18.7	14	2.[illegible]
550	31	4,915	-14.8	-24.4	15	[illegible]
500	31	5,629	-19.7	-30.3	17	2.1
450	31	6,402	-25.0	-34.9	18	2.6
400	31	7,247	-31.3	-39.7	19	2.8
350	31	8,182	-38.1	-42.9	21	[illegible].1
300	31	9,222	-46.1		23	2.8
250	31	10,413	-53.3		24	2.5
200	31	11,859	-49.8		25	1.2
175	30	12,744	-48.8		27	1.3
150	30	13,758	-48.7		27	1.6
125	30	14,956	-49.0		28	1.6
100	30	16,422	-48.9		29	.[illegible]
80	30	17,889	-48.4		11	.2
70	30	18,770	-47.9		08	.[illegible]
60	29	19,793	-47.6		09	1.5
50	29	20,999	-47.0		09	[illegible].3
40	28	22,477	-46.6		09	3.[illegible]
30	26	24,390	-45.3		08	5.7
25	26	25,610	-44.0		08	6.8
20	26	27,115	-41.9		09	7.[illegible]
15	23	29,074	-38.7		09	9.1
10	19	31,890	-34.2		09	11.[illegible]
7	14	34,405	-28.[illegible]			

+ YAP, CAROLINE IS.
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	28	14	27.7	24.6	14	.7
1000	28	72	26.5	23.9	14	.8
950	28	525	23.4	21.4	15	.9
900	28	997	20.7	17.8	15	1.3
850	28	1,490	18.2	14.2	16	1.4
800	28	2,009	15.6	11.[illegible]	14	1.6
750	28	2,556	12.7	8.2	12	1.4
700	28	3,133	9.7	4.7	11	2.5
650	28	3,746	6.2	2.1	12	2.9
600	28	4,399	2.5	-2.0	11	4.5
550	28	5,099	-1.1	-5.[illegible]	10	5.4
500	28	5,854	-5.2	-10.8	10	5.8
450	28	6,676	-9.7	-17.6	09	6.2
400	28	7,576	-15.2	-24.3	09	5.7
350	28	8,576	-21.7	-31.[illegible]	09	5.3
300	28	9,690	-30.0	-39.5	10	5.1
250	28	10,960	-40.5	-47.4	10	4.0
200	28	12,439	-53.3		07	5.1
175	27	13,286	-60.5		06	5.9
150	27	14,227	-68.6		05	7.5
125	27	15,299	-76.2		06	9.1
100	27	16,571	-78.8		08	11.1
80	27	17,868	-71.9		0[illegible]	15.0
70	27	18,660	-69.2		09	17.4
60	27	19,587	-66.6		09	19.6
50	27	20,700	-62.9		09	24.4
40	26	22,085	-59.1		09	30.7
30	24	23,911	-54.1		09	32.[illegible]
25	24	25,090	-51.1		09	27.1
20	24	26,592	-47.7		09	20.0
15	21	28,457	-45.1		09	13.5
10	16	31,197	-41.9		09	14.6
7	9	33,629	-38.1			

YUCCA FLAT, NV
881 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	31	1,198	16.2	-2.4	21	.3
1000						
950						
900						
850	31	1,509	24.3	3.1	21	2.7
800	31	2,036	21.3	.5	21	7.3
750	31	2,591	17.0	-2.2	21	7.9
700	31	3,173	12.2	-4.8	20	5.9
650	31	3,789	7.3	-7.7	19	4.8
600	31	4,441	2.0	-11.7	18	4.5
550	31	5,137	-3.0	-16.3	20	4.7
500	31	5,885	-8.0	-21.6	22	5.6
450	31	6,695	-13.8	-27.7	23	7.3
400	31	7,579	-20.2	-35.2	24	9.4
350	31	8,557	-27.3	-41.5	23	11.4
300	31	9,646	-35.7	-48.4	23	12.[illegible]
250	31	10,890	-44.4		23	17.2
200	31	12,353	-54.2		23	21.0
175	31	13,200	-59.1		23	20.2
150	31	14,155	-63.7		23	17.1
125	31	15,263	-67.0		24	10.6
100	31	16,611	-66.0		23	3.1
80	30	17,976	-62.9		15	1.8
70	30	18,803	-60.8		11	3.1
60	29	19,765	-59.0		10	5.1
50	29	20,916	-56.5		09	6.8
40	28	22,340	-54.3		09	8.7
30	28	24,195	-51.8		09	11.7
25	28	25,382	-49.9		09	12.6
20	25	26,855	-47.3		09	13.8
15	19	28,775	-44.5		09	15.1
10	12	31,530	-39.7			

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

JULY [illegible]

Sun's zenith distance

Date	A M 78.7°	A M 75.7°	A M 70.7°	A M 60.0°	•	P M 60.0°	P M 70.7°	P M 75.7°	P M 78.7°

ALBUQUERQUE, NM

Air mass

Date	4.19	3.35	2.51	1.67	•	1.67	2.51	3.35	4.19
1	(.64)	(.72)	(.84)	(1.02)	(1.28)	----	----	----	----
2	.72	.78	.92	1.09	1.28	----	----	----	----
3	----	----	.86	1.02	(1.25)	----	----	----	----
4	(.72)	----	----	----	(1.32)	----	----	----	----
5	----	----	----	(1.16)	(1.34)	----	----	----	----
6	----	.87	.99	1.11	1.35	1.20	1.05	.93	.86
7	.84	.90	1.04	1.18	1.39	1.20	----	.93	.86
8	.81	.87	1.00	1.15	1.33	----	----	----	----
9	.78	.85	1.00	1.13	1.35	1.15	.93	.82	.74
10	.78	.88	1.01	1.15	1.34	----	----	----	----
13	.77	.84	.94	----	1.34	----	----	----	----
14	----	----	----	----	1.37	----	----	----	----
16	----	----	.98	1.15	----	----	----	----	----
17	.80	.89	1.01	1.16	1.37	----	----	----	----
18	----	----	----	(1.10)	1.35	----	1.02	.92	.86
19	.81	.90	1.01	1.15	1.35	----	----	----	----
20	.76	.88	1.04	1.18	1.36	----	----	----	----
23	.72	.81	.95	----	1.33	1.12	----	----	.75
24	----	----	----	----	1.37	----	----	----	----
25	----	----	1.02	1.19	----	----	----	----	----
26	----	----	1.00	1.15	1.31	----	----	----	----
27	.77	.86	1.00	1.15	1.36	----	----	----	----
28	.79	.90	1.01	1.16	1.37	1.19	1.05	.93	.82
29	.81	.90	1.02	1.18	1.38	1.18	----	----	----
30	.78	.86	.98	1.13	1.36	(1.11)	----	(.81)	(.74)
31	.85	.95	1.07	1.20	1.39	(1.21)	(1.07)	----	----
Averages	.79	.78	.99	1.15	1.35	1.17	1.01	.91	.82

MADISON, WI

Air mass

Date	4.69	3.75	2.81	1.88	•	1.88	2.81	3.75	4.69

NO DATA RECEIVED

OMAHA, NE

Air mass

Date	4.78	3.82	2.87	1.91	•	1.91	2.87	3.82	4.78

NO DATA RECEIVED

BLUE HILL OBSERVATORY, MA

Air mass

Date	4.89	3.92	2.94	1.96	•	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HA

Air mass

Date	3.34	2.67	2.01	1.34	•	1.34	2.01	2.67	3.34
1	----	----	1.31	1.43	----	----	----	----	----
6	1.12	1.20	1.29	1.41	----	----	----	----	----
7	----	----	----	----	1.57	1.43	1.31	1.23	1.16
8	----	----	1.34	1.45	1.53	----	1.27	1.20	1.12
9	----	1.24	1.34	1.44	1.53	----	----	----	----
11	----	1.26	1.34	1.44	1.50	----	1.19	1.09	1.01
13	----	----	----	1.39	----	----	----	----	----
15	----	----	----	----	----	1.35	1.24	1.13	1.03
18	----	----	1.28	1.38	1.50	1.32	1.22	1.13	1.05
19	----	1.20	1.29	1.40	1.50	----	----	----	----
21	----	----	----	1.35	1.53	----	----	----	----
22	----	1.24	1.33	1.42	----	----	----	----	----
23	----	----	1.37	1.46	----	----	----	----	----
30	----	----	1.29	1.42	1.55	1.40	1.29	1.20	1.13
31	----	1.22	1.32	1.42	1.52	1.40	1.28	1.19	1.13
Averages	1.12	1.23	1.32	1.42	1.53	1.38	1.26	1.17	1.09

TUCSON, AZ

Air mass

Date	4.64	3.71	2.78	1.86	•	1.86	2.78	3.71	4.64
1	.31	.42	.57	.80	----	.94	.78	.66	.55
2	.49	.60	.74	.94	1.18	----	----	----	----
4	----	----	----	.95	1.21	1.06	----	.83	----
5	.60	.72	.87	1.05	1.30	1.11	.93	.81	.73
6	.70	.80	.94	1.12	1.33	1.12	.94	.83	.73
7	.77	.88	1.00	1.15	1.36	1.16	1.01	.88	.79
8	.72	.83	.95	1.12	1.32	1.12	.96	.87	.75
9	----	----	.82	----	1.20	.91	----	----	----
10	----	.51	.68	.93	1.19	----	----	----	----
11	.56	----	.85	1.05	1.27	----	----	----	----
12	----	----	----	1.01	----	----	----	----	----
14	.59	.72	----	----	1.29	----	----	----	----
15	----	----	----	----	1.34	1.13	----	----	----
16	----	----	.91	1.09	1.29	----	.86	----	----
17	----	----	.83	1.02	1.24	----	----	----	----
18	.65	.75	.89	----	----	----	----	----	----
19	.75	.85	.96	1.11	----	----	----	----	----
21	----	----	----	----	----	----	.85	----	.55
22	----	----	----	1.10	----	----	----	----	----
24	----	----	----	----	----	1.16	1.00	88	.79
26	----	----	.93	1.09	----	1.07	----	----	----
27	.66	.77	.90	1.06	1.27	----	----	----	----
28	----	.55	----	.94	----	----	----	----	----
29	----	.71	.82	1.02	1.22	.98	.82	.68	.56
30	----	----	----	----	1.21	1.02	.83	.71	----
31	----	----	----	----	----	.83	.64	.55	.47
Averages	.62	.70	.85	1.03	1.26	1.05	.87	.77	.66

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska [illegible]

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	225	226	156	210	263	205	295	213	248	265	244	249	259	133	84	200	208	147	134	146	145	155	248	250	174	164	116	164	[illegible]	[illegible]	[illegible]	[illegible]

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (<3900 Å) at Ames, Iowa

Date. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

$°F. = \frac{9}{5} \times °C + 32$

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
+	Storm damages are placed in categories varying from 1 to 9 as follows

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
—	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeterminable
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

DESCRIPTION OF CHARTS

CHART I. A. NORMAL DAILY AVERAGE TEMPERATURE (°F. 1941-70) FOR MONTH. B. TEMPERATURE DEPARTURE FROM 30-YEAR MEAN (°F. 1941-70) FOR MONTH. Chart I-A is reproduced from monthly normals maps prepared at the National Climatic Center. Chart I-B is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin," a publication of Environmental Data Service.

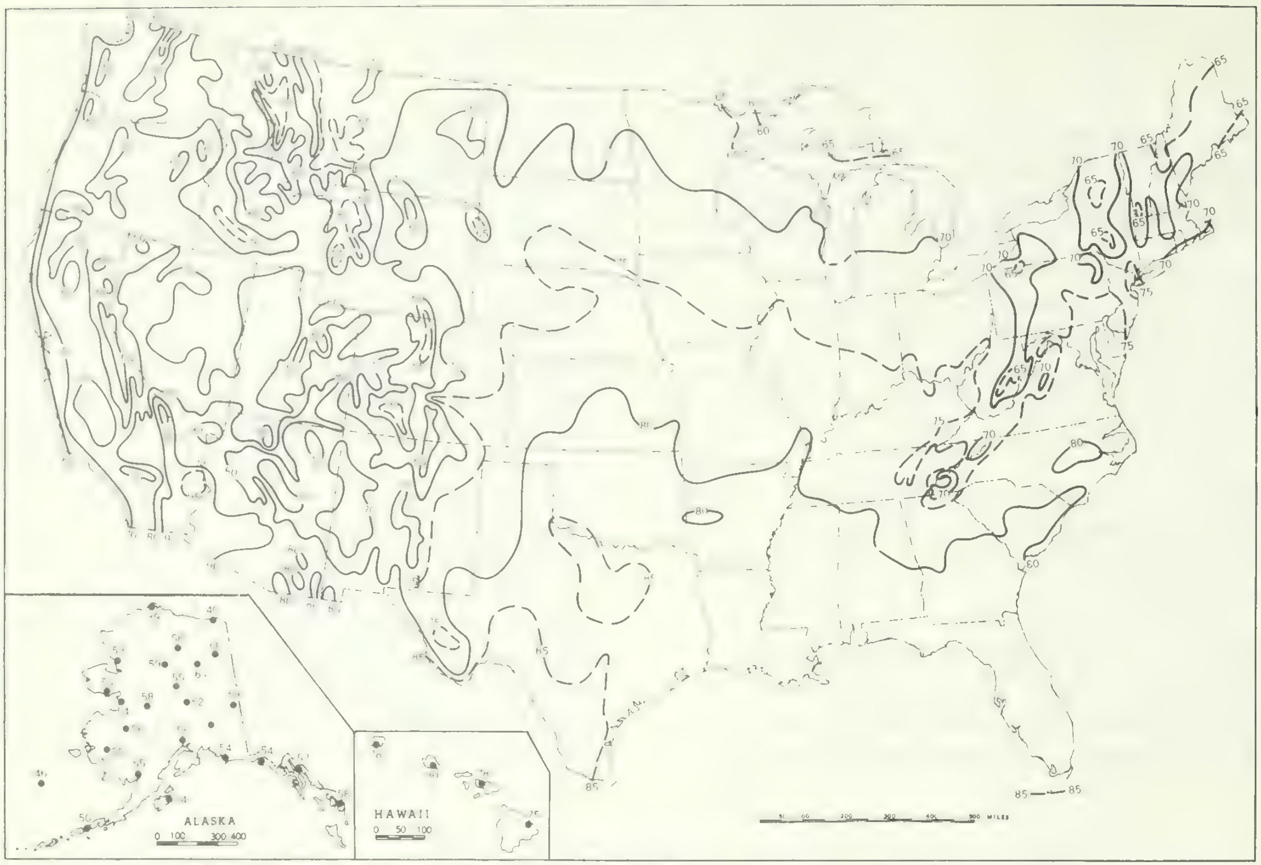
CHART II. A. TOTAL PRECIPITATION. Chart II. A. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

CHART II. B. PERCENTAGE OF NORMAL PRECIPITATION. Chart II. B. is a reproduction of monthly chart appearing in "Weekly Weather and Crop Bulletin."

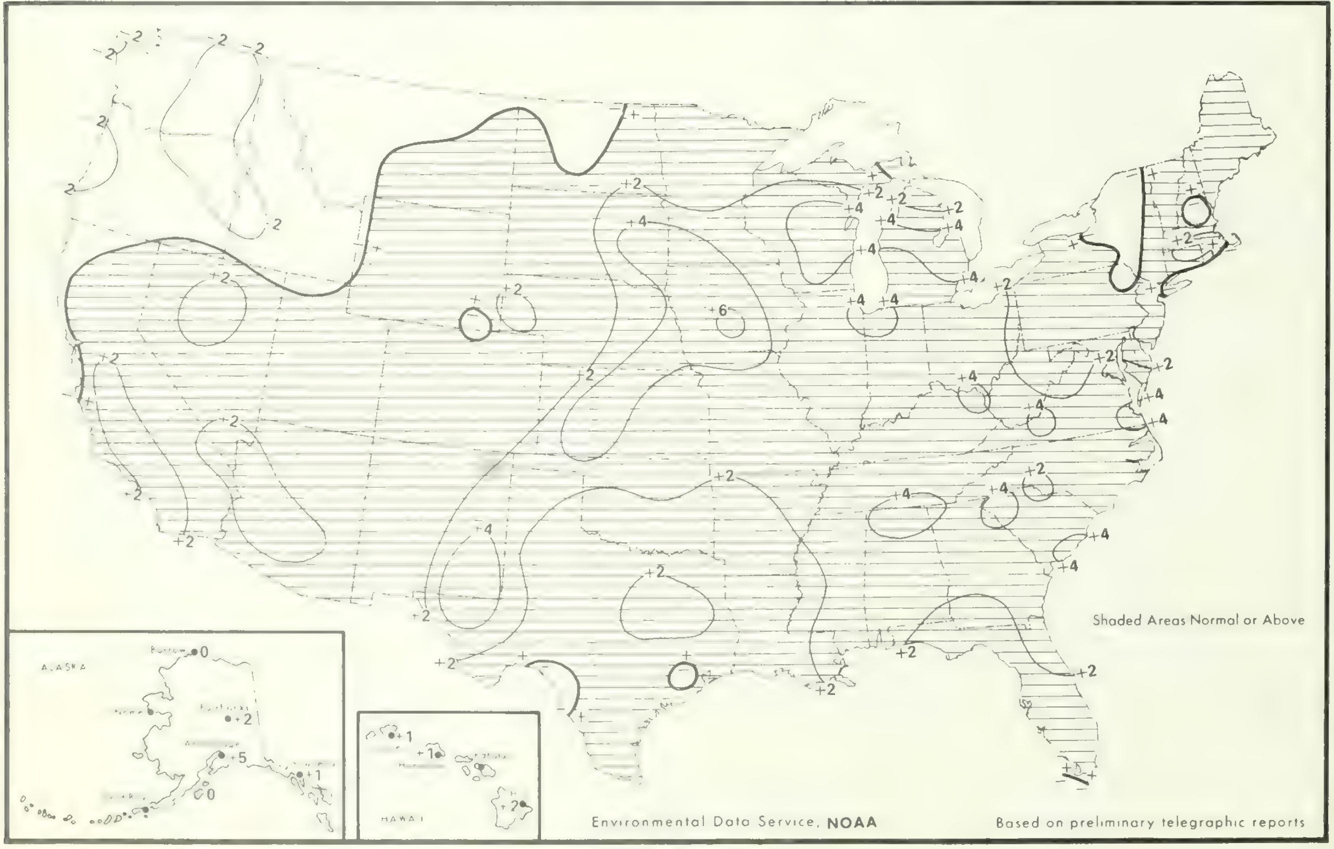
CHART III. TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IV. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m., e.s.t., positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by X's. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Squares indicate position of stationary center for period shown beside it.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), July



B. Temperature Departure from 30 - Year Mean (°F 1941-70), July 1977

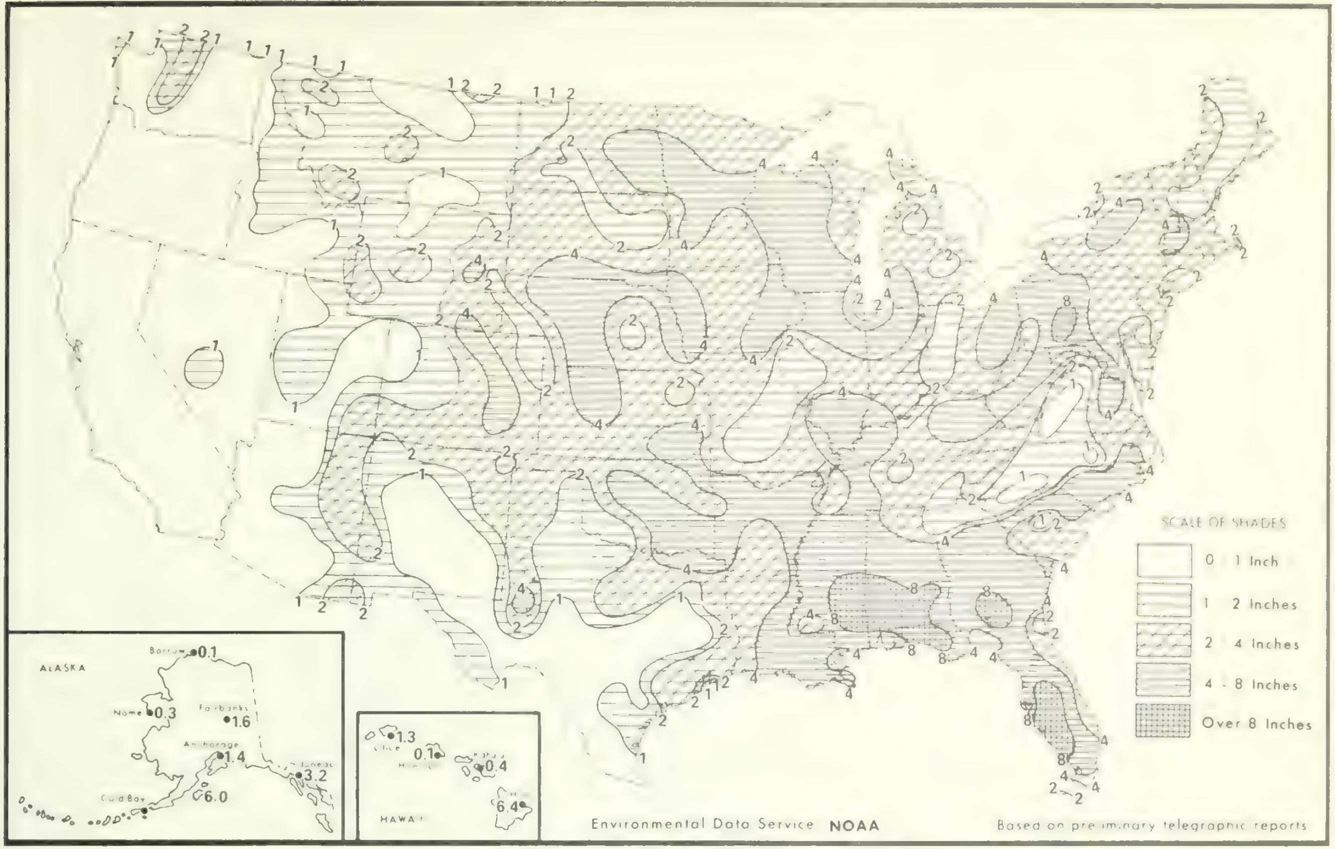


Shaded Areas Normal or Above

Environmental Data Service, NOAA

Based on preliminary telegraphic reports

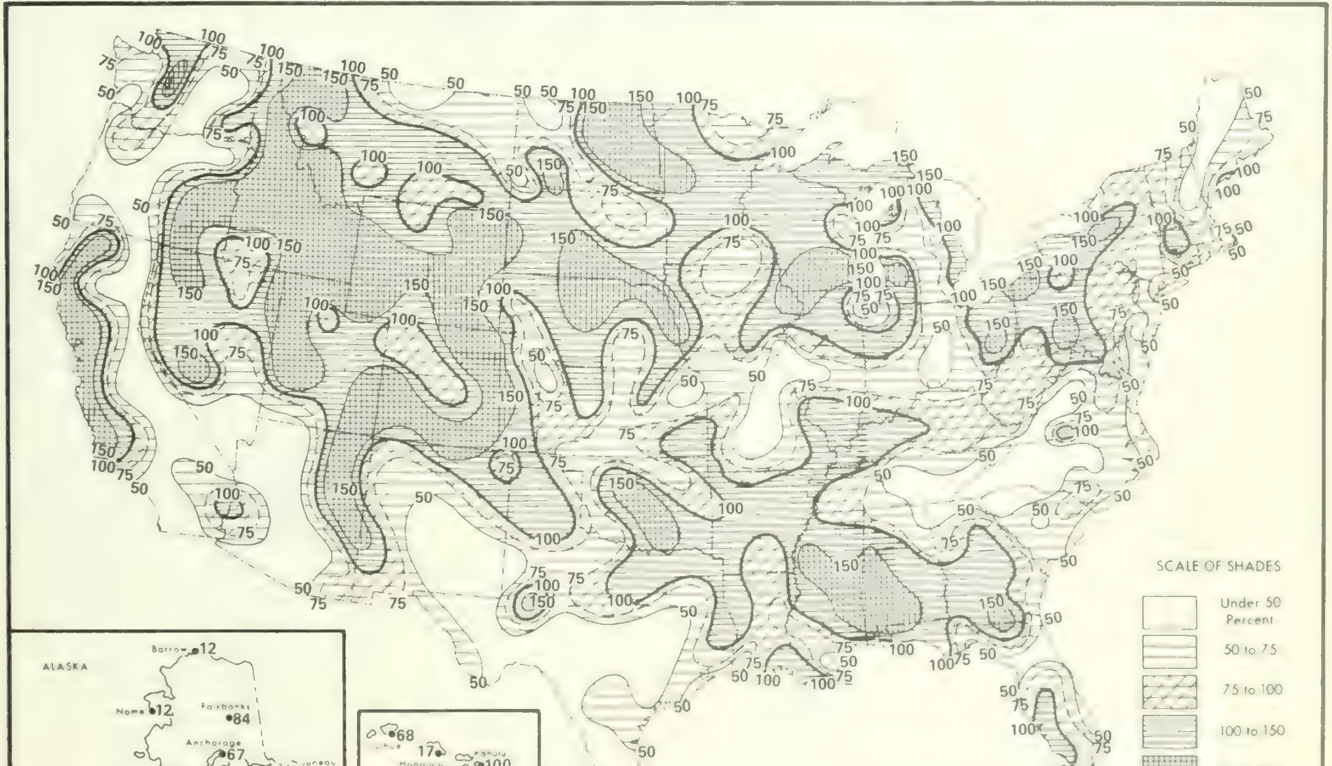
Chart II A Total Precipitation (Inches), July 1977



Environmental Data Service **NOAA**

Based on preliminary telegraphic reports

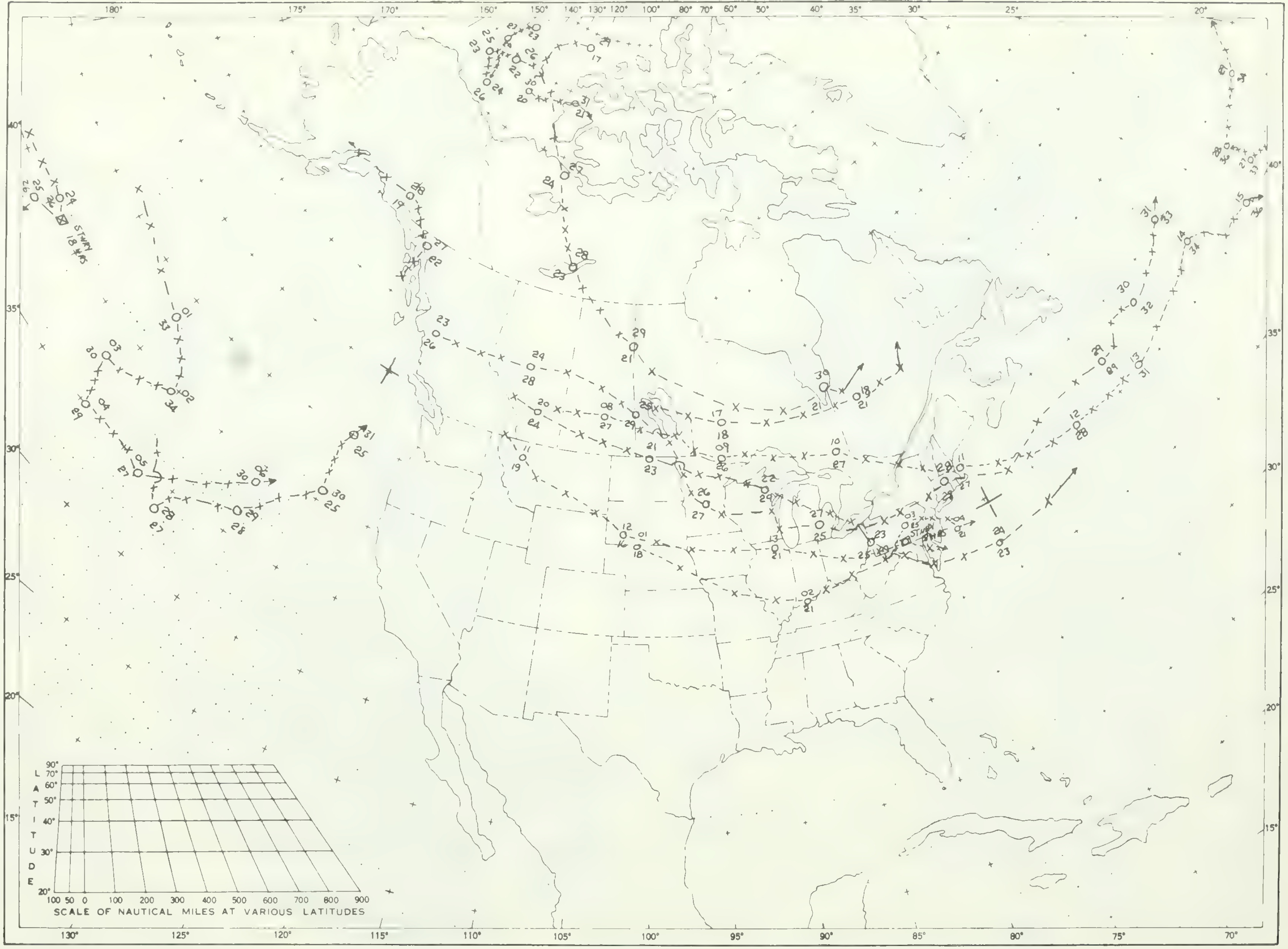
B Percentage of Normal Precipitation, July 1977



Environmental Data Service **NOAA**

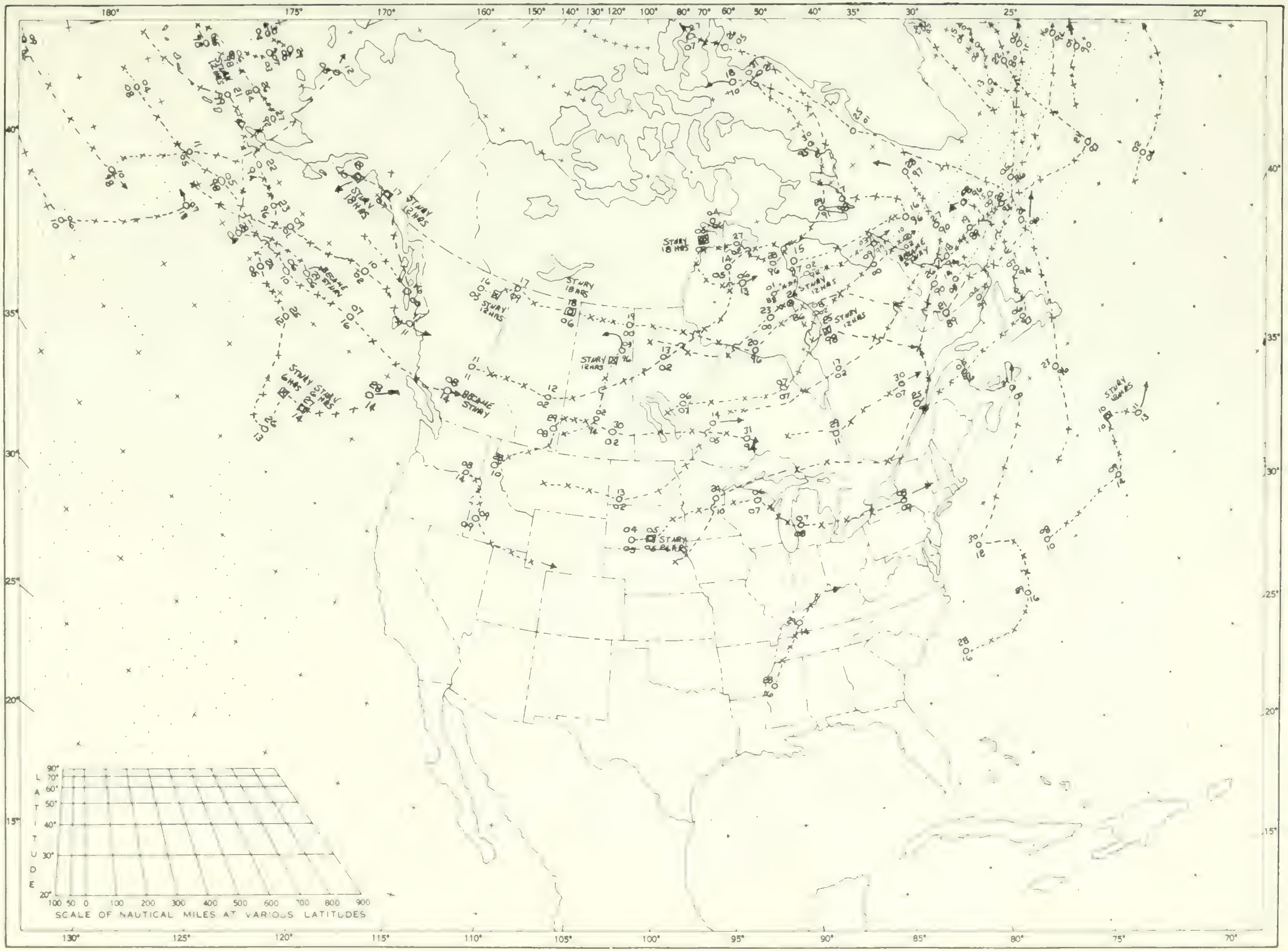
Based on preliminary telegraphic reports

Chart III. Tracks of Centers of Anticyclones at Sea Level, July 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. **X's** indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, July 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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AUGUST 1977 VOLUME 28 NUMBER 8

JAN 11

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

AUGUST 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: August was a month of healthy amounts of rain in key agricultural areas. Many States in the Corn Belt and Plains growing sections received much more rain than normal for the time of year. Although temperatures were 2 to 4° cooler than normal in these same regions, crops flourished.

The East and West Coasts experienced above normal temperatures, while along the northern tier, from Montana to New York, readings dipped 2 to 8° below normal.

Typical August weather was marked by many thunderstorms in the first week. The first day of the month brought heavy rains to the eastern States; Tallahassee, FL, and Columbia, SC, recorded 2 inches while Philadelphia was drenched by 4 inches. The remainder of the initial week brought record-tying temperatures, low and high. Palm Springs, CA, notched 117°, and 32° was recorded in northeastern Minnesota. One day was highlighted by five tornadoes--three in Illinois and one each in Missouri and Florida. At the week's end, Atwater, OH, was inundated by 8 inches of rain.

The second week of August was noted by ample precipitation in the Corn Belt and parched northwestern Virginia. The Pacific Northwest was under the spell of a heat wave when the northern Plains were near freezing, showing 9 to 13° below normal.

Central Iowa was especially hard hit by 3 to 7 inches on the 8th. More than 2 inches of rain hit a variety of sections throughout the Nation including southern Florida, western New York, the central Kansas-Oklahoma border, and most of Kentucky. Nearly the entire West Coast remained dry as did western Texas and central Georgia.

The month's third week carried the new season's first hurricane, Doreen, which pushed heavy precipitation into southern California and parts of the Southwest. Portions of the Corn Belt, once again, received heavy rain alleviating some of the dry soil moisture conditions; 6 to 8 inches fell on some Iowa points. Sections along the Gulf and middle Atlantic Coasts, middle Mississippi Valley, and central Plains were soaked. Temperatures ran below normal in most of the country except west of the Rockies and the isolated locales of western Texas, southern Florida, the upper South, and the Louisiana Delta.

August's fourth week saw relief from the heat in the Pacific Northwest that had reached into the 100's for several days. A winterlike cold front produced large amounts of rain well ahead of the traditional rainy season. The central Plains and, again, Iowa were awash with heavy rain. Other areas of heavy precipitation included the southern parts of Illinois, Indiana, and Louisiana; central Georgia to the South Carolina coast; and the upper midwest.

Several stations set precipitation records for the month--Baton Rouge, Des Moines, and Buffalo among them.

The month closed with ominous threats from Hurricanes Anita and Babe, but little damage resulted.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

AUGUST 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Muscle Shoals FAA AP	102	7	Falkville 1 E	56	19	Brewton 3 SSE	14.69	Wadley	.52
Alaska	2 Stations	93	20+	4 Stations	17	28+	Mac Leod Harbor	22.97	St. Paul Island WSO AP	.17
Arizona	2 Stations	118	2+	Fort Valley	33	29	Palisade Ranger Station	9.69	3 Stations	.00
Arkansas	Hector	105	9	Huntsville	53	2	Greers Ferry Dam	9.50	Mount Ida 3 SE	.24
California	Death Valley	124	2	2 Stations	21	8	Mt. San Jacinto W S Park	7.63	109 Stations	.00
Colorado	2 Stations	104	3	Climax	23	21	Bonny Lake	5.89	Gateway 1 SW	.42
Connecticut	Hartford WSO AP	96	28	Coventry	37	21	Falls Village	5.52	Shuttle Meadow Reservoir	1.83
Delaware	Dover	102	6	Georgetown 5 SW	47	26	Newark University Farm	7.85	Middletown 1 WSW	3.01
Florida	Perry	98	7	Smith Creek	63	10	Steinhatchee 6 ENE	19.59	Melbourne	2.94
Georgia	Calhoun Exp Station	100	6	Blairsville Exp Stations	50	19	Folkston 9 SW	12.14	Lumpkin 2 SE	1.17
Hawaii	2 Stations	95	18	Mauna Loa Slope Obs.	33	10	Hilo Country Club 86.6	26.86	8 Stations	.00
Idaho	Brownlee Dam	108	21	2 Stations	24	31	Island Park Dam	3.59	Picabo	.14
Illinois	Du Quoin 4 SE	99	8	Marengo	39	25	Rantoul	12.82	Effingham 3 W	2.87
Indiana	5 Stations	95	31	Angola	37	19	Delphi 3 NNE	11.35	Ogden Dunes	2.94
Iowa	Des Moines WSFO AP	96	3	3 Stations	40	18	Sidney	16.63	Merrill 4 WSW	1.25
Kansas	2 Stations	105	9	Atwood	47	29	Salina FAA AP	13.75	Syracuse 2 W	1.84
Kentucky	Gilbertsville KY Dam	100	8	Warsaw Markland Dam	47	21	Campbellsville 2 SSW	14.34	Elkton 2 S	1.59
Louisiana	3 Stations	100	17+	Ashland 2 S	60	3+	Pine Grove Fire Tower	19.33	Monroe FAA AP	1.46
Maine	Saco	96	28	Clayton Lake 2	33	26	Rangeley	7.37	West Buxton 2 NNW	2.14
Maryland	5 Stations	99	12+	Oakland 1 SE	41	25+	Unionville	5.81	Beltsville	2.06
Massachusetts	Chester 2	98	29	Chester 2	33	21	Lanesboro	7.27	Westfield	1.74
Michigan	4 Stations	94	28+	2 Stations	26	24+	Harbor Beach 3 NW	9.14	Lansing WSO AP	1.60
Minnesota	Winona	93	28	Tower 3 S	22	24	Minn-St. Paul WSO AP	9.31	Theilman	1.38
Mississippi	5 Stations	99	31	2 Stations	55	4+	Vancleave	12.85	Brooksville Exp. Station	.15
Missouri	Cole Camp 9 SE	105	9	Berryman 6 NW	47	2	Bethany	14.07	Troy	1.42
Montana	2 Stations	103	19	Ovando 9 SSE	25	28	East Glacier	5.85	Dillon Airport	.28
Nebraska	3 Stations	100	27	2 Stations	36	28+	Nebraska City	13.78	Scottsbluff WSO AP	.63
Nevada	2 Stations	115	3+	Mountain City Ranger Sta.	26	31	Adaven	4.89	3 Stations	.00
New Hampshire	Concord WSO AP	98	29	Mount Washington	30	19	Dixville Notch	8.89	Deering	2.13
New Jersey	Hammonton 2 NNE	97	7	3 Stations	40	25+	Moorestown	10.13	Jersey City	2.31
New Mexico	2 Stations	107	23+	Eagle Nest	32	28	House	11.02	Ochoa	.00
New York	Salem	99	30	Old Forge	33	25	South Wales Emery Park	12.11	Salem	1.28
North Carolina	Elizabeth City	102	9	Grandfather Mountain	47	22	Fort Bragg Water Plant	12.34	Reidsville 2 NW	1.46
North Dakota	Drake 9 NE	93	9	Towner 2 NE	28	17	Ashley	3.93	Sherwood 3 N	.63
Ohio	Cin Muni-Lunken Field	95	31	Fredericktown 4 S	37	25	Chardon	11.22	Delaware Dam	1.80
Oklahoma	3 Stations	106	16	Hooker 2 SW	54	11	Waynoka	10.57	Konawa	1.18
Oregon	Riddle	110	17	Seneca	25	31	Nehalem 9 NE	7.17	Klamath Falls 2 SSW	.17
Pennsylvania	Donegal 2 NW	98	29	2 Stations	33	25	Erie WSO AP	11.06	Harrisburg FAA AP	.93
Puerto Rico	Magueyes Island	97	28+	Cerro Maravilla	58	7	Rio Grande El Verde	20.75	Magueyes Island	1.42
Rhode Island	Providence WSO AP	91	28+	Kingston	42	21	Newport	5.38	Providence WSO AP	2.12
South Carolina	3 Stations	99	11+	Saluda	53	22	Edisto Island 1 WNW	15.69	Lockhart	1.84
South Dakota	2 Stations	98	24+	Ralph	32	11	Alexandria	7.07	Eagle Butte	.87
Tennessee	2 Stations	100	11+	Oneida	49	20	Rogersville 1 NE	8.89	2 Stations	1.41
Texas	4 Stations	110	24+	Perryton 5 NNE	55	11	Center	11.03	4 Stations	.00
Utah	Saint George	110	2	2 Stations	28	31	Logan 5 SW Exp. Farm	5.30	Soldier Summit	.11
Vermont	Vernon	95	30	4 Stations	36	26+	Danville	9.73	Ludlow	2.09
Virginia	3 Stations	103	13+	4 Stations	45	26+	John W Flannagan Lake	8.56	Randolph 5 NNE	1.53
Virgin Islands	Frenchmans Bay	95	17	Cruz Bay	67	26	Fountain	5.36	Charlotte Amalie 2	1.73
Washington	3 Stations	110	17	Lake Keechelus	30	31	Baring	8.40	Chelan	.25
West Virginia	Cacapon State Park 2	98	7	Canaan Valley	35	20	West Logan	12.81	Wellsburg Water Trtmt Pl	1.75
Wisconsin	Oshkosh	94	27	Jump River 5 E	24	24	Bloomer	10.42	Breed	1.48
Wyoming	Sheridan Field Station	97	25	Alta 1 NNW	20	31	Gillette 2 E	3.96	Tennyson	.15

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	995.9	1017.9	32.8	22.8	27.8	1.6	35.0	31	20.6	11	24	0	21.1	70	22	-87	13	6	9	0	0	0.8	14	12.1	5	4	5	19	[illegible]	5.7	59
HUNTSVILLE	190	994.9	1017.6	33.1	20.5	26.8	0.7	36.7	8	17.2	19	24	0	20.0	72	62	-25	49	9	9	0	0	1.0	14	10.7	15	2	6	17	8	5.5	
MOBILE	64	1009.5	1017.1	32.4	24.7	28.6	1.1	34.4	9+	23.3	3	21	0	22.8	76	138	-38	37	22	11	0	0	1.2	12	11.2	18	4	0	14	17	7.5	
MONTGOMERY	59	1010.8	1016.0	32.5	22.6	27.6	0.5	34.4	31	21.1	21+	24	0	21.7	75	90	2	62	11	8	0	0	0.8	14	15.2	SW	10	8	14	9	5.8	6[illegible]
ALASKA																																
ANCHORAGE	35	1010.5	1015.3	19.5	11.9	15.7	2.4	27.8	21	7.2	29	B 9	0	11.7	79	34	-25	11	10	0	0	0	0.8	20	10.7	15	13+	2	3	26	8.3	37
ANNETTE	34			21.7	12.6	17.2	2.6	31.1	18	8.3	31+	15	0			51	-131	35	8		0	0			9.4	11	23	11	5	15	5.8	
BARROW	4	1015.6	1016.0	9.7	4.1	6.9	3.8	20.6	4	-0.6	28	0	1	4.4	86	20	-6	9	11	0	T	0	2.6	9	15.6	9	10	0	5	26	9.0	
BARTER ISLAND	12	1014.6	1015.4	7.8	2.6	5.2	1.4	13.9	2	-1.1	31+	0	4	4.4	95	13	-19	4	8	0	10	0	3.0	8	14.3	8	1[illegible]	[illegible]	[illegible]	2[illegible]	8.4	
BETHEL	39	1005.8	1011.5	19.1	10.5	14.8	3.5	28.9	21	5.6	28	6	0	10.0	77	51	-50	8	18	0	0	0	1.7	9	12.5	15	18+	3	[illegible]	2[illegible]	7.6	
BETTLES	196	990.9	1014.9	21.4	10.6	16.1	5.0	30.6	4+	0.0	28	16	1	10.6	74	43	-27	14	8	0	0	0	0.8	2								
BIG DELTA	386			22.6	10.2	16.4	3.8	31.1	4	1.1	28	22	0			42	-7	13	8		0	0										
COLD BAY	29	1004.7	1008.6	14.2	9.7	12.0	1.3	16.7	20	5.0	22	0	0			84	-14	19	20	0	0	0	1.6	15	19.7	15	21	0	0	31	9.7	
FAIRBANKS	133	997.0	1013.7	22.9	11.1	17.0	4.0	30.6	21	1.1	28	22	0	10.0	66	10	-45	4	6	0	0	0	0.6	2	9.4	4	22	5	8	18	6.8	
GULKANA	479			21.9	6.5	14.2	2.4	30.0	21	-1.7	31+	18	4			14	-26	4	6		0	0										
HOMER	19	1011.5		16.9	9.6	13.3		23.3	20	5.0	29	1	0			61	-4	19	14	0	0	0	0.5	13	9.4	17	17+	4	5	22	7.9	
JUNEAU	4	1015.6	1016.4	20.2	9.2	14.7	2.3	28.3	20	4.4	31	16	0	11.1	82	77	-50	19	11	0	0	0	0.5	1	9.4	12	23	10	6	15	6.3	57
KING SALMON	15	1009.1	1011.0	17.6	9.9	13.8	1.7	26.7	21	6.1	9	3	0	9.4	73	80	-8	27	17	0	0	0	2.2	14	13.0	18	13+	0	5	26	8.9	
KODIAK	4	1009.5	1013.8	14.5	8.9	11.7	-1.0	22.2	23	5.0	30	1	0	10.6	92	283	173	56	20	0	0	0	2.2	10	11.2	7	2	3	4	24	8.4	
KOTZEBUE	3			17.8	12.0	14.9	4.6	23.3	3	5.0	27	6	0			18	-39	6	10	1	[illegible]	0			13.9	16	18	5	7	19	7.1	
MC GRATH	105	1000.7	1013.2	22.8	9.4	16.1	4.2	31.7	21	1.1	28	19	0	10.0	73	37	-46	17	13	0	0	0	0.2	4	9.4	10	10	[illegible]	[illegible]	2[illegible]	7.0	
NOME	4	1011.2	1012.1	17.6	9.4	13.6	4.0	27.2	21	0.6	27	7	0	9.4	74	38	-52	11	11	0	0	0	1.5	11	10.7	19	18	7	5	19	6.7	5[illegible]
ST. PAUL ISLAND	7			12.6	8.7	10.6	2.0	17.2	27	5.6	23	0	0			4	-83	3	5	0	0	0			13.0	11	21+	2	3	26	8.8	
TALKEETNA	105	1002.4		20.7	9.5	15.1	2.6	29.4	21	2.2	31	14	0			34	-90	17	12	0	0	0	0.5	22	5.8	21	24+					
UNALAKLEET	5			20.2	9.2	14.7		29.4	22+	1.1	27	13	0			38		11	16		0	0			11.2	9	21+	[illegible]	4	1[illegible]	6.9	
VALDEZ	11	1016.3	1017.3	16.7	8.8	12.7	1.6	27.2	20	3.9	30	2	0	10.0	87	64	-84	16	13	0	0	0	0.8	24	7.6	25	23	2	5	24	8.5	
YAKUTAT	9	1015.9	1017.0	16.9	9.1	13.0	1.4	25.0	20	3.3	31	1	0	11.7	91	131	-144	46	15	0	0	0	0.2	35	8.9	9	[illegible]	7	6	18	7.0	
ARIZONA																																
FLAGSTAFF	2135	791.1	1015.0	27.3	10.6	19.0	1.4	33.3	1	5.0	29	1	0	8.9	59	94	27	36	11	15	0	0	1.5	23	9.4	SW	26	9	12	10	5.3	59
PHOENIX	339	970.9	1008.6	40.6	28.4	34.5	2.8	45.0	5	25.6	29+	31	0	16.1	36	5	-26	4	2	4	0	0	0.6	24	20.6Y	N	12	17	10	4	3.3	85
TUCSON	788	924.1	1009.4	36.4	24.0	30.2	1.4	40.6	5	21.1	29	30	0	15.0	43	20	-39	12	6	12	0	0	1.2	20	17.9	E	1	13	10	8	5.0	8[illegible]
WINSLOW	1492	852.7	1012.6	33.1	16.8	24.9	0.4	39.4	3	10.0	29	20	0	12.9	54	56	18	20	10	15	0	0	1.7	21	17.9	13	23	11	14	6	5.0	
YUMA	59	1001.0	1008.1	39.6	27.2	33.4	-0.4	43.9	4	23.3	28	30	0	17.8	44	75	64	69	3	3	0	0	3.0	18	25.0	S	14	23	3	5	2.5	94
ARKANSAS																																
FORT SMITH	136	999.0	1015.3	33.6	21.7	27.7	0.2	37.8	9+	17.8	2	25	0	20.6	70	66	-8	27	7	9	0	0	0.9	12	11.6	SW	13	5	15	11	6.3	6[illegible]
LITTLE ROCK	78	1006.8	1016.0	32.1	21.6	26.9	-0.1	34.4	31+	17.8	2	20	0	21.1	74	35	-42	20	4	6	0	0	1.1	16	7.6	SW	27+	6	14	11	5.9	92
CALIFORNIA																																
BAKERSFIELD	145	993.9	1011.0	36.2	22.9	29.6	2.1	42.2	2	17.8	7	29	0	14.4	43	26	26	26	1	0	0	0	1.5	30	8.0	12	15	23	5	3	2.2	
BISHOP	1252	872.7		35.3	14.5	24.9	1.6	41.7	1	10.6	8	27	0			13	10	12	4		0	0			22.8Y		1	17	10	4	3.5	
BLUE CANYON	1609	939.5	1010.4	26.4	14.8	20.6	1.3	34.4	1	8.3	26	2	0	2.2	34	32	25	32	2		0	0	1.0	21	6.7	19	25+					
EUREKA	13			17.0	12.2	14.6	0.7	20.6	28+	10.0	4	0	0			5	-2	4	5		0	0			6.9	NW	30+	4	3	24	8.3	34
FRESNO	100	999.7	1011.1	35.4	18.6	27.0	1.3	40.6	1	15.0	8	27	0	13.3	46	T	-1	T	0	0	0	0	2.2	29	8.0	31	25	23	3	5	2.2	95
LONG BEACH	8	1011.2	1012.4	29.2	20.0	24.6	1.7	34.4	15	16.7	14	2	0	17.2	69	52	51	48	3	0	0	0	1.3	22	7.6	19	15	22	4	5	3.4	
LOS ANGELES	30	1008.8	1012.3	24.8	18.4	21.6	0.8	28.9	16+	16.1	15	0	0	17.2	81	63	62	61	3	0	0	0	2.7	25	10.3Y	W	13+	16	10	5	3.9	
LOS ANGELES C	82			28.8	19.6	24.2	0.8	32.8	20+	16.7	11	2	0			57	56	56	3		0	0			5.8	SW	26+	17	10	4	3.6	
MT SHASTA	1077	892.0	1013.8	30.0	9.9	19.9	1.1	37.8	2	3.3	27	13	0			9	1	3	4		0	0										
OAKLAND	2	1013.9	1014.2	22.6	15.4	19.0	1.5	32.2	29	12.8	22	1	0	13.3	76	1	0	1	1	0	0	0	3.4	28	9.4	30	11	1[illegible]	12	9	5.2	
RED BLUFF	104	998.6	1011.0	36.7	19.2	28.0	1.4	43.9	2	14.4	26	26	0	11.7	40	T	-5	T	0	0	0	0	0.9	18	11.2	N	30	18	9	4	3.1	91
SACRAMENTO	5	1010.5	1011.4	31.9	14.6	23.3	-0.1	38.3	1	11.1	9	14	0	11.7	57	0	-1	0	0	0	0	0	3.0	19	11.2	SW	24	19	8	4	2.9	92
SANDBERG	1377	963.2	1013.3	26.4	17.0	22.[illegible]	-0.1	35.0	15	11.1	27	7	0			47	45	46	2		0	0			14.3	32	26					
SAN DIEGO	4	1011.5	1012.5	25.0	20.7	22.8	0.9	27.8	20	20.0	30+	0	0	17.8	77	54	52	54	2	0	0	0	2.1	27	9.8	S	17	12	12	7	5.0	65
SAN FRANCISCO	2	1013.2	1014.0	21.9	13.7	17.8	0.6	32.2	29	12.2	31+	1	0	10.6	68	T	-1	T	0	0	0	0	5.3	29	12.5	28	28	12	10	9	5.0	
SAN FRANCISCO C	16			19.3	13.6	16.4	1.2	28.3	29	12.2	21+	0	0			1	-1	1	1													
SANTA MARIA	72			23.7	13.2	18.4	1.6	31.1	29+	10.0	28+	0	0			T	0	T	1		0	0						15	14	2	3.9	
STOCKTON	7	1011.2	1012.1	34.5	17.4	26.0	1.9	41.1	1	14.4	27+	24	0	12.2	49	0	-1	0	0	0	0	0	3.4	31	10.7	28	24	21	4	6	3.2	
COLORADO																																
ALAMOSA	2297	776.2		26.8	8.6	17.7	0.7	32.2	7	2.2	29	1	0			16	-13	5	11		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	814.1	1013.8	26.8	13.8	20.3	-0.3	32.8	7+	8.3	28	2	0	10.6	59	130	64	71	15	18	0	0	1.3	10	13.0	29	30+	6	13	12	5.9	
DENVER	1610	837.8	1012.1	26.3	14.2	21.2	-0.8	33.9	26+	9.4	28	4	0	9.4	52	25	-7	8	13	9	0	0	0.6	13	13.9	W	30	5	17	9	6.0	73
GRAND JUNCTION	1476	852.0	1010.4	33.8	17.6	25.7	1.6	38.3	7+	11.1	27	25	0	6.7	34	15	-12	10	4	4	0	0	0.7	13	13.9	NW	9	8	19	4	4.8	79
PUEBLO	1428	856.4	1012.0	31.1	15.7	23.4	-0.2	37.6	7	11.7	30+	17	0	13.9	64	90	40	34	10	7	0	0	0.8	12	21.9	NW	18	10	11	10	5.3	84
CONNECTICUT																																
BRIDGEPORT	2	1016.9	1017.6	27.2	19.5	23.4	0.8	32.2	6	10.6	21	1	0	17.8	73	119	23	32	13	8	0	0	2.2	24	11.2	25	1	4	10	17	7.1	
HARTFORD	52	1010.5	1016.8	28.9	16.4	22.7	1.3	35.6	28	7.8	19	6	0	17.8	77	62	-38	18	10	5	0	0	1.3	20	16.5	NW	5	5	10	16	6.9	65
DELAWARE																																
WILMINGTON	23	1014.9	1018.0	28.9	19.3	24.1	0.7	34.4	6	11.1	25	5	0	17.8	70	122	21	49	13	13	0	0	1.5	24	13.0	30	17	6	12	13	6.4	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1006.4	1018.0	31.1	18.1	24.6	1.5	36.1	5	8.9	26	15	0	18.3	72	106	-2	57	15	10	0	0	0.6	21	9.8	24	24	8	10	13	6.1	
WASHINGTON NATIONAL	3	1015.6	1018.1	30.8	21.2	26.0	0.9	35.0	6+	13.3	26	13	0	20.0	73	120	2	31	11	9	0	0	1.3	21	17.4	SE	30	6	12	13	6.2	70
FLORIDA																																
APALACHICOLA U	6	1016.9	1017.6	30.7	23.4	27.1	-0.4	32.8	1	21.7	27	2	0	23.9	63	176	-29	41	18	21	0	0	1.9	14	14.3	SE	28	1	16	14	7.4	67
DAYTONA BEACH	9	1017.3	1018.7	32.2	24.0	28.1	0.8	34.4	19+	22.2	2	18	0	23.9	83	201	27	62	22	18	0	0	2.3	13	11.2	10	27+	5	16	10	6.2	
FORT MYERS	5	1017.3	1017.5	31.6	23.4	27.5	-0.7	33.9	15	21.7	13	10	0	23.3	83	269	73	41	21	22	0	0	1.7	9	12.5	8	11	1	20	10	6.6	
JACKSONVILLE	8	1018.0	1018.9	32.7	22.7	27.7	0.5	35.6	18	20.0	23	23	0	22.8	79	184	-16	75	13	14	0	0	1.6	13	11.2	NE	31	5	12	14	6.6	52
KEY WEST	1	1015.9	1016.5	30.9	25.7	28.3	-0.9	32.2	26+	23.3	31+	3	0	23.3	74	265	151	99	21	16	0	0	4.1	12	13.9	13	28	3	14	14	6.9	35
LAKELAND U	65			32.4	22.9	27.7	-0.1	35.6	2	20.6	8	19	0			205	22	51	18		0	0						2	21	8	6.5	48
MIAMI	2	1017.6	1017.9	31.0	25.9	28.4	0.2	32.8	21+	23.9	30+	7	0	23.9	78	210	40	33	23	12	0	0	3.6	9	12.5	8	31+	0	15	16	7.5	71
ORLANDO/MC COY AFB	29	1014.6	1016.4	31.8	23.1	27.5	-0.2	34.4	19	21.7	14+	18	0	22.8	83	160	-11	26	20	22	0	0	1.8	11	9.8	9	28	3	12	16	7.1	
PENSACOLA	34	1013.2	1017.5	30.6	23.2	26.9	-0.8	32.2	7	21.7	1	1	0	23.9	88	160	-10	36	17	19	0	0	1.9	13	10.7	18	10	0	17	14	7.1	
TALLAHASSEE	17	1015.9	1016.2	31.8	22.3	27.1	-0.2	34.4	8+	20.0	13+	18	0	23.9	89	400	225	77	24	24	0	0	1.3	11	13.4	19	8	2	15	14	6.7	
TAMPA	6	1016.0	1016.1	32.3	24.3	28.3	0.4	34.4	15+	21.7	12	22	0	22.8	78	152	-51	48	20	18	0	0	1.4	11	13.0	9	11+	2	11	18	7.5	49
WEST PALM BEACH	5	1016.9	1017.8	31.8	24.2	28.1	0.1	34.4	21	21.7	30	15	0	23.9	80	204	26	38	19	15	0	0	3.9	11	13.4	8	31	0	14	17	7.5	
GEORGIA																																
ATHENS	244	990.2	1018.6	30.7	20.7	25.7	-0.1	33.3	12+	17.8	21	12	0	21.1	80	161	70	71	9	10	0	0	0.7	15	8.0	29	16	8	13	10	6.0	
ATLANTA	308	982.4	1018.4	30.3	20.4	25.4	0.1	32.8	12+	17.8	19	5	0	20.6	78	107	18	63	8	6	0	0	1.3	13	7.6	35	24+	4	14	13	6.5	60
AUGUSTA	41	1013.5	1018.7	32.1	20.8	26.5	0.1	35.0	11+	17.2	21	22	0	21.1	79	199	92	76	15	11	0	0	1.0	13	11.2	32	3	8	14	9	5.5	
COLUMBUS	117	1004.4	1018.1	33.1	22.4	27.8	0.9	35.6	8	20.0	21	24	0	22.8	80	256	149	173	11	9	0	0	1.3	11	11.2	11	26	5	16	10	6.2	
MACON	108	1006.1	1018.8	32.9	21.8	27.4	0.2	35.6	9	18.9	21	25	0	22.2	81	75	-18	39	7	10	0	0	1.4	13	12.1	SE	27	7	13	11	6.1	68
ROME	194			32.9	20.7	26.8	1.2	36.1	7+	16.7	21+	21	0			131	42	49	12		0	0										
SAVANNAH	14	1017.6	1019.2	31.8	22.8	27.3	0.3	35.6	9	21.1	22	15	0	22.2	77	203	39	74	13	13	0	0	1.1	13	11.6	NW	3	7	11	13	6.2	54
HAWAII																																
HILO	8	1013.9	1015.0	30.0	21.2	25.6	1.2	31.7	17+	19.4	30+	0	0	21.1	79	193	-83	63	26	0	0	0	0.3	10	8.5	SE	12	2	17	12	6.5	46
HONOLULU	2	1014.6	1015.0	31.5	24.2	27.9	0.8	33.3	13	21.1	11	6	0	20.0	64	2	-17	1	4	0	0	0	5.5	7	13.0	E	24	10	18	3	4.6	74
KAHULUI	15	1012.2	1014.6	31.2	22.3	26.8	0.8	33.9	12	19.4	21+	8	0			18	9	7	8	1	0	0	5.8	5	14.3	NE	31+	18	10	3	3.6	73
LIHUE	31	1011.2	1016.4	29.6	23.6	26.6	0.4	30.6	28+	21.1	17	0	0	21.7	74	34	-22	7	16	0	0	0	4.9	7	10.3	NE	25+	7	16	8	5.7	70
IDAHO																																
BOISE	865	913.6	1011.6	30.9	15.3	23.1	0.8	38.9	1	5.6	31	20	0	5.6	36	19	11	14	4	3	0	0	0.1	29	15.2	NW	30	10	11	10	5.2	
LEWISTON	431			33.2	17.2	25.2	3.3	41.1	18	9.4	31	23	0			42	27	29	5		0	0			16.1Y		6					
POCATELLO	1358	863.2		29.8	11.1	20.5	-0.3	35.6	2	4.4	31	16	0			8	-8	7	4	2	0	0			15.2	[illegible]	30	11	9	11	5.4	73
ILLINOIS																																
CAIRO U	96			30.2	21.9	26.1	-0.2	35.6	8	16.7	20	10	0			128	39	59	10		0	0			19.2	N	16					77
CHICAGO O HARE	201	991.9	1015.7	27.3	16.9	22.2	0.4	33.3	27	8.9	25	3	0	15.6	69	137	68	34	17	9	0	0	1.6	22	13.4	20	28	3	12	16	7.0	
CHICAGO MIDWAY	185	993.9	1016.1	26.7	17.6	22.2	-1.0	33.9	27	11.1	25	4	0	16.7	72	246	166	60	19	12	0	0	1.8	21	15.2	W	8	6	10	15	6.6	57
MOLINE	177	994.2	1015.7	26.7	16.6	21.7	-1.1	32.8	27	10.6	18	2	0	17.2	78	177	92	51	15	13	0	0	1.3	21	14.3	NW	6	6	10	15	6.8	38
PEORIA	199	992.6	1016.3	27.0	16.7	21.9	-1.2	32.2	27	10.0	12	1	0	16.7	77	185	107	73	13	12	0	0	1.2	19	11.2	N	7	4	12	15	6.9	57
ROCKFORD	221	989.5	1016.2	25.5	15.2	20.3	-1.6	32.2	27	8.3	25	1	0	15.6	77	135	42	40	16	8	0	0	1.3	21	10.3	32	8+	4	10	17	7.1	
SPRINGFIELD	179	994.2	1016.2	27.8	17.6	22.7	-0.9	32.2	31	10.6	18+	1	0	19.4	82	151	82	46	12	10	0	0	1.3	18	11.2	S	28+	2	10	19	7.4	51
INDIANA																																
EVANSVILLE	116	1003.1	1016.9	29.8	20.1	24.9	0.4	33.9	31	13.3	19	8	0	20.0	78	214	139	94	12	8	0	0	0.9	20	10.7	W	10	7	12	12	6.3	85

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation ground	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	987.5	1017.1	26.8	16.2	21.5	-0.3	32.8	4	9.4	18	1	0	17.2	79	184	111	44	13	11	0	0	1.7	23	12.5	SW	4	5	10	16	7.0	74
INDIANAPOLIS	241	988.5	1017.2	28.4	18.2	23.3	0.4	33.3	6	12.2	18+	5	0	19.4	82	114	42	27	13	10	0	0	1.3	22	12.5	NW	11	6	9	16	6.6	57
SOUTH BEND	236	988.5	1016.2	26.2	15.7	21.0	-0.7	32.8	27	8.3	19	1	0	16.1	76	153	70	62	15	7	0	0	1.7	22	14.3	30	5	5	11	15	6.9	
IOWA																																
BURLINGTON	211			26.6	16.2	21.4	-1.8	32.2	27	9.4	18	1	0	17.8	80	159	73	53	16	11	0	0	1.2	20	9.4	21	31+	4	13	14	6.5	
DES MOINES	286	980.7	1014.9	27.9	16.6	22.3	-0.7	35.6	3	10.0	18	5	0	16.7	72	347	264	119	15	14	0	0	1.3	19	15.2	NW	27	4	13	14	6.8	56
DUBUQUE	322	977.7		24.1	14.3	19.2	-2.1	30.6	27	8.3	12	0	0			153	51	29	17		0	0										
SIOUX CITY	334	975.3	1014.5	26.7	14.9	20.8	-2.3	33.3	26	10.0	11	1	0	14.4	70	64	-11	29	11	9	0	0	0.7	16	13.0	S	26	3	9	14	6.1	6[illegible]
WATERLOO	265	964.1	1015.6	24.6	13.1	18.8	-2.7	32.2	27	6.1	18	1	0	14.4	76	138	50	54	18	13	0	0	1.0	19	11.6	19	27	4	9	18	7.2	
KANSAS																																
CONCORDIA	448	962.1	1013.8	28.7	17.8	23.2	-1.9	35.0	7	12.2	11	5	0	18.3	75	272	192	99	17	18	0	0	2.1	16	17.9	NW	4	9	12	10	5.8	75
DODGE CITY	787	924.5	1012.9	31.7	18.9	25.3	-0.3	38.3	8	13.3	11	19	0	17.2	66	189	122	65	13	15	0	0	3.1	16	18.3	W	5	6	14	9	5.5	66
GOODLAND	1114	888.6	1012.8	28.4	14.9	21.7	-1.7	37.2	26	9.4	28	9	0	15.6	74	136	84	52	15	14	0	0	1.9	15	19.7	29	4	11	12	8	5.2	
TOPEKA	267	983.4	1014.7	30.8	18.6	24.7	-0.4	36.1	9+	11.7	1	13	0	19.4	75	284	178	99	13	13	0	0	1.5	17	15.2	NW	31	5	14	12	6.7	64
WICHITA	403	967.5	1014.3	30.8	20.1	25.5	-1.0	37.8	9+	14.4	29	15	0	18.9	71	160	82	57	16	13	0	0	2.3	17	17.9	W	27	8	14	9	5.7	65
KENTUCKY																																
COVINGTON	265	986.5	1017.6	28.3	18.2	23.3	-0.3	33.3	5	10.0	19	4	0	19.4	82	138	72	40	14	8	0	0	1.7	22	13.0	35	24	5	11	15	6.6	
LEXINGTON	294	983.1	1018.0	29.3	19.2	24.3	0.4	32.8	6	12.8	20	4	0	18.3	73	123	36	28	15	11	0	0	1.6	18	9.8	31	24	4	12	15	6.8	
LOUISVILLE	145	999.7	1017.1	30.3	20.2	25.3	0.9	33.9	31+	14.4	20	12	0	20.0	77	155	80	41	12	12	0	0	1.3	19	16.5	W	8	6	13	12	6.6	49
LOUISIANA																																
ALEXANDRIA	28	1011.9	1016.1	33.1	22.4	27.8	0.7	36.1	8+	20.6	4	20	0	23.3	84	142	55	40	14	13	0	0	1.0	13								
BATON ROUGE	20	1013.9	1016.6	31.4	23.3	27.4	-0.2	35.0	8	22.2	5+	14	0	23.3	84	335	219	58	22	19	0	0	1.1	12	10.3	11	28+	0	14	17	7.3	
LAKE CHARLES	3	1014.6	1015.5	31.6	23.2	27.4	-0.5	33.9	10+	21.7	12+	13	0	23.9	88	293	172	178	20	21	0	0	1.5	11	15.6	10	31	1	16	14	7.5	
NEW ORLEANS	1	1015.2	1016.1	31.6	23.8	27.7	0.0	35.6	1	22.2	23+	18	0	24.4	87	409	276	106	27	20	0	0	1.0	12	9.4	13	30	0	15	16	7.8	41
SHREVEPORT	77	1006.8	1015.8	32.3	21.3	26.8	-1.6	35.0	10	18.3	4	22	0	22.8	84	109	41	34	11	9	0	0	1.3	14	13.4	36	1	8	8	15	6.1	57
MAINE																																
CARIBOU	190	991.5		23.7	12.1	17.9	1.1	33.3	29	6.1	26	1	0			200	104	65	15		0	0						3	14	14	7.2	
PORTLAND	13	1013.9	1016.3	24.8	13.6	19.2	0.1	33.9	29+	5.6	21	2	0	15.6	83	71	5	27	9	5	0	0	1.2	22	12.1	SW	5	6	7	18	6.6	61
MARYLAND																																
BALTIMORE	45	1012.5	1018.1	31.0	19.8	25.4	1.6	36.7	6+	11.1	26	14	0	19.4	74	[illegible]4	-23	33	8	11	0	0	1.3	24	14.8	NW	5	5	13	13	6.2	59
MASSACHUSETTS																																
BLUE HILL OBS R	192			26.8	16.3	21.6	0.8	33.3	29+	8.9	21	2	0			79	-18	17	9		0	0			21.5	SW	5					58
BOSTON	5	1016.3	1017.1	27.9	18.1	23.0	1.2	35.0	29+	13.3	26+	5	0	17.8	75	74	-14	18	12	4	0	0	2.0	24	17.0	SW	5	6	12	13	6.4	63
WORCESTER	301	980.7		25.4	15.2	20.3	0.3	31.7	29	8.3	21	0	0	15.0	73	69	-37	26	10	5	0	0	2.3	26	7.6		5	5	9	17	7.2	
MICHIGAN																																
ALPENA	210	990.2	1015.4	22.8	9.7	16.3	-1.6	31.1	27	1.7	20	0	0	12.2	79	121	52	29	17	4	0	0	1.5	22	11.2	NW	19	3	16	12	6.4	59
DETROIT	189			27.0	17.8	22.4	0.2	33.3	28	8.9	20	4	0	14.4	62					4			1.9	22	10.3	20	28+					
DETROIT METRO	195	992.2	1016.1	27.8	15.1	21.4	-0.1	33.9	28+	6.7	19	5	0	15.0	70	57	-27	11	11	3	0	0	1.8	24	13.0	SW	4	4	15	12	6.5	72
FLINT	235	988.2	1015.7	25.6	14.6	20.1	0.0	32.2	28+	5.0	20	2	0	15.0	74	80	-3	25	17	5	0	0	2.1	22	10.3	20	28+	3	14	14	6.6	
GRAND RAPIDS	239	987.1	1016.1	26.0	13.8	19.9	-1.2	33.3	28+	6.1	19	4	0	15.6	79	121	57	45	14	1	0	0	2.2	22	16.5	S	26	3	12	16	7.2	54
HOUGHTON LAKE	350	974.3	1015.8	23.0	10.4	16.7	-1.5	29.4	27	0.6	25+	0	0	12.8	78	145	85	38	16	7	0	0	1.4	24	11.6	26	28	5	11	15	6.7	
LANSING	256	984.8	1016.0	27.1	13.4	20.3	-0.6	34.4	28+	2.8	20+	3	0	16.1	79	41	-30	16	15	5	0	0	2.2	23	14.6	NW	31	2	14	15	7.1	56
MARQUETTE C	206			20.8	12.3	16.6	-2.1	30.0	27	8.3	25+	0	0			90	14	34	17		0	0			13.0	S	30					67
MUSKEGON	191	992.9	1015.8	24.4	14.1	19.2	-1.3	31.1	27	6.1	25	0	0	15.6	80	63	-2	16	12	4	0	0	2.4	22	12.5	20	28	5	11	15	6.7	
SAULT STE MARIE	220	987.8	1014.4	20.1	8.0	14.1	-3.3	28.3	27	1.1	20	0	0	11.7	88	90	11	24	17	4	0	0	1.1	27	15.6	NW	17	4	13	14	6.8	51
MINNESOTA																																
DULUTH	435	963.1	1014.1	19.9	9.6	14.8	-3.1	25.0	7	1.7	24	0	0	9.4	72	83	-13	31	13	4	0	0	1.5	25	11.6	W	31	3	12	16	7.2	51
INTERNATIONAL FALLS	359	970.2	1013.1	20.6	7.2	13.9	-3.4	26.1	9	0.0	24	0	1	9.4	79	76	-10	29	14	4	0	0	1.7	27	9.4	16	25+	1	14	16	7.3	
MINNEAPOLIS	254	984.4	1014.5	24.8	13.1	18.9	-2.3	31.7	26	5.0	18	0	0	12.8	70	236	159	187	13	6	0	0	1.2	23	11.6	S	27+	4	13	14	6.9	59
ROCHESTER	395	967.8	1015.1	24.6	12.1	18.4	-1.9	30.6	27	6.7	18	0	0	12.2	71	67	-24	20	17	5	0	0	1.9	22	13.4	16	15	5	9	17	7.0	
ST CLOUD	313	977.7	1014.8	24.2	10.6	17.4	-2.8	29.4	26+	2.8	18	0	0			155	56	75	14		0	0						2	16	13	6.7	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1005.1	1016.8	33.1	22.5	27.8	0.4	35.0	15+	20.0	21	27	0	22.2	76	37	-54	21	5	11	0	0	1.7	14	11.2	15	28	10	12	9	5.7	62
MERIDIAN	88	1006.4	1017.3	33.9	22.3	28.1	1.1	35.6	9+	20.6	12+	29	0	21.7	73	120	21	56	10	5	0	0	0.5	18	10.7	18	28+	4	15	12	6.2	
MISSOURI																																
COLUMBIA REGIONAL	270	984.1	1015.7	30.8	19.1	25.0	0.6	37.2	7	13.9	18	11	0	18.3	72	57	-24	39	7	8	0	0	1.1	16	13.0	NW	23+	2	12	17	7.1	53
KANSAS CITY	309	978.7	1014.7	28.7	18.4	23.6	-1.7	33.9	3	13.3	12	7	0	19.4	80	203	106	69	12	9	0	0	1.7	17	14.8	SW	27	6	14	11	6.4	53
ST JOSEPH	247			28.8	18.1	23.4	-1.3	34.4	26+	13.3	12+	8	0			248	145	57	13		0	0										
ST LOUIS	163	996.6	1016.4	29.7	19.6	24.7	-0.4	35.0	7	13.3	19+	8	0	20.0	78	136	63	40	8	6	0	0	1.1	18	17.9	NW	7	1	13	17	7.2	33
SPRINGFIELD	386	971.6	1015.8	31.6	20.9	26.3	1.2	37.2	10	14.4	18	16	0	20.0	72	80	5	36	9	5	0	0	1.9	18	12.1	SE	25	8	9	14	6.4	61
MONTANA																																
BILLINGS	1087	892.0	1014.0	26.3	11.6	18.9	-2.2	33.9	24+	6.1	31	5	0	7.8	55	27	1	14	10	6	0	0	0.8	36	14.8	NE	9	8	16	7	5.5	69
GLASGOW	696	933.6	1014.7	23.4	8.9	16.2	-4.3	36.7	24	3.9	10+	1	0	5.6	54	15	-24	5	13	1	0	0	1.2	33	14.8	34	9	7	9	15	6.4	
GREAT FALLS	1116	839.9	1015.4	24.2	9.7	16.9	-2.7	32.8	1	2.8	31	3	0	7.2	58	40	22	12	11	4	0	0	0.8	27	17.4	W	24	10	9	12	6.1	61
HAVRE	788	923.8		25.8	9.2	17.6	-2.4	36.7	24	2.8	30	4	0			21	-6	6	11	2	0	0	0.9	27	17.4	NW	19	8	14	9	5.7	60
HELENA	1167	882.5	1016.0	25.8	9.3	17.6	-1.4	33.9	19+	2.2	31+	5	0	5.0	48	18	-7	10	5	4	0	0	2.0	30	15.6	SW	24	9	11	11	5.6	59
KALISPELL	904	911.6	1014.9	25.0	10.1	17.6	0.6	33.9	18	6.1	27+	5	0	7.2	55	29	-4	11	14	9	0	0	1.4	4	11.6	3	14+	11	7	13	5.1	
MILES CITY	801	922.1	1013.9	25.8	11.7	18.8	-3.7	37.2	24	6.7	11	3	0	8.3	56	57	27		16	6	0		1.4	35								
MISSOULA	972	904.2	1014.2	28.5	11.1	19.8	1.4	36.7	18	3.3	28	13	0	6.7	49	33	9	22	10	4	0	0	0.6	35	15.2	N	3	13	8	10	4.7	67
NEBRASKA																																
GRAND ISLAND	561	949.2	1014.1	27.9	16.2	22.1	-1.8	33.9	15	10.0	11	5	0	15.6	72	222	157	105	11	12	0	0	1.3	15	14.3	34	1	7	13	11	5.9	
LINCOLN	359	972.2	1014.2	28.1	16.7	22.4	-1.8	33.9	7	11.7	29	5	0	16.7	73	190	98	59	17	16	0	0	0.8	16	26.4	N	20	5	12	14	6.5	56
NORFOLK	471	959.4	1013.9	26.9	15.5	21.2	-2.0	32.2	26+	9.4	11	2	0	15.0	71	110	42	37	13	13	0	0	1.1	19	14.3	18	30	10	9	12	5.9	
NORTH PLATTE	846	918.1	1014.1	27.2	13.3	20.3	-2.5	33.9	20	3.9	11	4	0	13.9	70	45	-7	13	16	15	0	0	1.2	12	13.9	S	24	11	10	10	5.4	61
OMAHA	401			26.9	16.1	21.5	-1.7	33.9	26	11.7	24+	2	0	19.3	81	181	79	54	15	15	0	0	0.8	15	15.2	NW	15	6	14	11	6.4	44
SCOTTSBLUFF	1206	880.1	1013.3	28.5	13.9	21.2	-0.8	33.9	2	7.8	28	8	0	11.1	59	16	-8	10	7	9	0	0	1.3	9	13.4	32	20	10	14	7	5.1	
VALENTINE	789	922.5		26.9	12.4	19.7	-2.8	32.8	2	5.6	11	3	0	11.7	63	112	51	28	16		0	0	0.6	23	20.1	W	30	11	9	11	5.2	76
NEVADA																																
ELKO	1539	845.6	1012.5	31.4	11.7	21.6	2.2	37.8	2	2.8	27	15	0	3.3	35	20	4	11	8	5	0	0	0.7	25	11.2	24	25	11	11	9	5.3	
ELY	1906	811.0	1012.3	28.6	8.9	18.8	0.2	36.1	2	1.1	27	5	0	3.3	43	40	26	17	11	10	0	0	2.6	21	14.3	NW	26	10	12	9	5.2	73
LAS VEGAS	659	934.6	1009.0	39.8	24.7	32.3	1.5	46.1	2	20.0	28	30	0	7.8	27	35	23	34	3	2	0	0	2.6	20	15.2	NW	12	20	6	5	2.9	86
RENO	1342	865.9	1012.4	32.5	9.5	21.0	1.6	37.8	1	2.8	27	17	0	3.9	35	T	-5	T	1	3	0	0	1.0	28	13.0	W	24	16	8	7	3.9	86
WINNEMUCCA	1311	867.9	1011.8	33.2	11.7	22.4	2.6	40.0	2+	2.2	27	20	0	4.4	34	16	10	10	5	6	0	0	0.4	29	11.6	N	20+	13	8	10	4.9	78
NEW HAMPSHIRE																																
CONCORD	104	1004.4	1016.8	27.3	12.6	20.0	0.4	36.7	29	1.7	26	4	0	14.4	73	80	16	42	13	3	0	0	1.0	23	10.3	W	1	6	9	16	6.7	57
MT WASHINGTON OBS	1909			11.2	5.3	8.3	-0.1	17.8	29	-1.1	19	0	6			163	1	42	17	4	T	0			42.0	SW	17	1	5	25	8.8	21
NEW JERSEY																																
ATLANTIC CITY	20	1015.6	1016.1	29.0	19.1	24.1	1.1	33.3	7	11.1	26+	5	0	18.9	75	165	40	46	9	9	0	0	1.6	21	14.3	27	17	4	15	12	6.5	60
ATLANTIC CITY U	3			27.6	21.4	24.5	1.3	35.0	7	14.4	25	4	0			104	-11	34	9						11.6	SW	22+					
NEWARK	2	1016.6	1017.6	28.3	19.6	23.9	0.3	33.3	6+	12.8	25	6	0	17.8	72	109	1	27	13	8	0	0	1.6	23	12.1	31	6	2	17	12	7.1	
TRENTON U	17			28.4	19.2	23.8	0.6	33.9	6	12.2	25+	6	0			209	94	66	12		0	0			17.4	NW	6	2	16	13	6.7	55
NEW MEXICO																																
ALBUQUERQUE	1619	839.8	1011.8	32.1	18.3	25.2	0.4	37.2	6+	15.0	28	16	0	11.7	49	58	24	19	13	12	0	0	0.5	16	15.2	E	1	8	16	7	5.4	69
CLAYTON	1515			29.6	15.9	22.7	0.3	35.0	8	12.8	28+	9	0			62	-6	4	13		0	0										
ROSWELL	1112	889.9	1010.3	35.0	21.7	28.3	2.8	40.0	4	18.3	12	27	0	16.1	51	113	75	100	7	10	0	0	1.7	14	13.9	NW	19	7	20	4	5.0	77
NEW YORK																																
ALBANY	84	1006.4	1017.0	26.0	13.7	19.9	-1.0	33.3	29	5.6	26+	2	0	16.1	79	93	20	33	13	8	0	0	1.5	20	12.1	W	29	4	11	16	7.2	52
BINGHAMTON	485	960.4	1018.4	23.9	14.4	19.2	-0.4	31.1	28	7.2	25+	0	0	13.9	74	75	-17	26	12	8	0	0	2.0	24	21.0	W	5	5	11	15	6.8	46
BUFFALO	215	991.2	1016.6	24.9	15.1	20.1	-0.2	32.2	28	6.7	25	1	0	15.0	73	271	181	60	17	7	0	0	3.0	22	13.4	SW	16	4	16	11	6.5	61
NEW YORK U	40	1014.6	1017.7	28.4	20.1	24.3	0.4	33.9	11+	13.9	25+	7	0	17.8	69	116	14	33	11	6	0	0	1.5	24	6.7	WSW	8					
NEW YORK KENNEDY	4	1017.3	1017.8	27.1	18.8	22.9	-0.2	33.9	9	10.0	21	5	0	18.3	79	123	14	26	13	7	0	0	2.1	23	13.0	24	1	4	15	12	6.6	
NEW YORK LA GUARDIA	3	1016.9	1017.8	27.5	20.1	23.8	-0.1	33.3	6	13.9	25+	3	0	18.3	73	114	0	36	14	8	0	0	1.8	23	13.9	SW	1	3	17	11	6.7	
ROCHESTER	167	996.3	1016.4	26.1	14.6	20.4	-0.3	33.3	28	6.7	25	1	0	15.7	82	144	68	30	17	10	0	0	2.5	24	13.0	NW	17	6	10	15	6.5	55

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
SYRACUSE	125	1001.7	1016.6	25.2	14.0	19.6	-1.3	32.2	29+	5.6	21	2	0	16.1	81	125	36	27	19	9	0	0	1.6	23	15.2	W	14	2	14	15	7.0	42
NORTH CAROLINA																																
ASHEVILLE	652	945.1	1020.1	28.3	18.1	23.2	0.6	31.7	6	14.4	20	0	0	19.4	84	93	-21	37	15	10	0	0	0.4	16	8.0	34	17	1	17	13	7.0	45
CAPE HATTERAS R	2	1019.3	1019.8	29.7	23.0	26.4	1.1	32.2	9+	18.3	30	2	0	22.2	80	70	-102	52	9	2	0	0	2.0	23	8.9	23	17	12	10	9	5.3	
CHARLOTTE	224	992.6	1019.3	31.9	21.0	26.5	1.1	35.6	10+	16.1	19	19	0	20.0	72	62	-39	27	7	6	0	0	1.2	19	14.3	W	10	6	11	14	6.4	72
GREENSBORO	273	986.2	1019.3	31.6	19.8	25.7	1.2	37.2	7	13.9	19	16	0	20.0	76	102	-7	67	12	12	0	0	1.7	21	17.4	SE	23	5	14	12	6.5	54
RALEIGH	132	1003.4	1019.1	31.6	19.6	25.6	0.9	36.1	7	14.4	19	14	0	20.6	79	105	-21	48	8	11	0	0	1.5	19	9.4	23	7+	5	19	7	5.5	61
WILMINGTON	9	1018.3	1019.8	31.7	22.2	26.9	0.6	35.6	11+	18.3	21+	15	0	22.8	84	149	-25	48	13	5	0	0	0.9	18	10.3	SW	16	10	9	12	6.0	61
NORTH DAKOTA																																
BISMARCK	502	955.0	1014.3	24.4	8.9	16.7	-4.0	30.0	25+	1.1	11	0	0	7.8	61	49	-1	16	9	3	0	0	0.5	31	14.3	S	25	4	12	15	6.6	56
FARGO	273	980.7	1013.2	23.1	10.8	16.9	-3.7	27.8	9	5.6	13	0	0	10.0	66	64	-8	28	14	4	0	0	0.9	29	15.2	SE	25	2	16	13	6.9	54
WILLISTON	579	945.5	1014.4	23.6	9.2	16.4	-3.8	32.2	24	2.8	17+	1	0	7.8	61	33	0	19	12	1	0	0	1.5	31	11.6	NW	10	6	8	17	6.9	56
OHIO																																
AKRON	368	973.9	1017.8	26.6	17.1	21.8	0.6	30.6	9+	10.0	24	0	0	16.7	74	116	46	46	12	10	0	0	1.9	23	11.2	24	8	5	11	15	6.7	
CINCINNATI ABBE OB	232			28.8	18.6	23.7	-0.2	33.9	31+	10.0	19	5	0			123	46	46	13						8.0	W	15					33
CLEVELAND	237	988.8	1017.7	25.7	16.1	20.9	-0.2	31.1	28	8.3	25	0	0	16.1	76	100	23	20	14	8	0	0	1.9	22	10.3	25	5	7	11	13	6.4	72
COLUMBUS	247	988.2	1017.8	27.4	17.0	22.2	0.1	32.2	6+	8.9	25	3	0	16.7	73	121	48	59	14	9	0	0	1.5	21	13.9	SW	11	5	10	16	6.9	49
DAYTON	303	981.7	1017.4	27.8	17.4	22.7	-0.1	33.3	5	10.6	25+	3	0	17.2	73	91	26	29	12	8	0	0	1.9	22	12.1	SW	6	4	11	16	6.9	54
MANSFIELD	395			25.9	16.3	21.2	-1.1	31.1	28	9.4	25+	0	0	16.7	77	86	18	27	11	6	0	0	2.5	22	10.3	22	21	7	9	15	6.7	
TOLEDO	204	991.9	1016.7	26.7	14.7	20.7	-0.8	32.8	4	6.1	18	3	0	16.7	81	147	69	52	13	8	0	0	1.5	23	10.7	NW	11	4	14	13	6.5	49
YOUNGSTOWN	459	975.6	1017.8	25.9	15.7	20.8	0.1	31.7	28	6.7	25	0	0	15.6	74	118	36	52	14	7	0	0	1.8	24	8.5	35	11	3	13	15	7.0	
OKLAHOMA																																
OKLAHOMA CITY	392	969.2	1014.3	32.6	21.4	27.1	-0.2	37.8	16	18.3	22+	21	0	20.0	70	78	13	30	5	7	0	0	2.9	16	13.9	S	[illegible]	7	13	11	5.8	66
TULSA	198	990.5	1014.2	33.0	22.2	27.6	0.2	38.9	8	16.7	18	21	0	20.6	70	123	49	45	9	6	0	0	2.5	17	13.4	SW	16	6	14	11	6.3	64
OREGON																																
ASTORIA	2	1014.9	1015.5	21.3	12.7	17.1	1.3	31.1	10	8.9	31	0	0	13.3	85	98	61	33	7	0	0	0	1.8	24	9.4	19	24	6	7	18	7.3	
BURNS O	1265			28.9	12.0	20.5	1.6	36.1	12	2.2	27	13	0			7	-4	4	2		0	0			17.9Y	W	6	10	13	8	5.3	
EUGENE	109	1000.7	1014.3	29.4	12.5	20.9	2.0	38.9	12	6.7	31	11	0	12.2	64	43	28	35	6	1	0	0	1.1	25	10.3	24	17	12	8	11	5.6	
MEDFORD	396	966.1	1012.9	34.1	14.8	24.4	3.1	41.7	16	8.3	31	23	0	9.4	45	9	1	5	3	2	0	0	1.4	32	8.0	30	24+	15	5	10	4.4	
PENDLETON	452	959.7	1012.2	31.8	15.8	23.8	1.9	40.0	17	7.8	31	21	0	6.7	40	66	57	38	5	1	0	0	1.6	28	15.6	25	6	14	8	9	4.4	
PORTLAND	6	1012.9	1014.1	28.9	15.2	22.1	2.8	40.6	17	10.6	30	12	0	12.8	62	83	62	39	9	1	0	0	2.0	32	11.2	NW	30	10	11	10	5.1	[illegible]
SALEM	60	1006.4	1015.9	29.8	12.5	21.2	2.2	40.6	17+	8.3	31	15	0	12.2	63	43	29	28	8	1	0	0	0.6	27	6.9	3	9+	16	6	9	4.4	
SEXTON SUMMIT R	1169	884.9	1013.2	26.4	15.0	20.7	3.4	35.0	16	6.7	25	6	0			17	6	12	3		0	0			13.4	3	1					
PACIFIC AREA																																
GUAM TAGUAC R	110			31.0	22.3	26.7	0.5	32.2	1	21.1	24	1	0			155	-154	61	25		0	0			8.5	E	20	0	10	21	8.2	52
JOHNSTON	2	1012.2	1012.6	29.4	25.7	27.6	0.2	30.0	24+	23.9	29+	0	0	23.3	78	44	-21	18	13	0	0	0	6.6	10	18.3	E	26	9	12	10	5.7	84
KOROR R	29	1005.4		30.4	24.2	27.3	0.0	32.2	22+	22.2	30+	2	0			488	97	77	26	2	0	0	2.2	26	10.3	SW	15+	0	4	27	9.3	29
KWAJALEIN	2	1008.8		30.7	25.8	28.3	0.2	31.7	29+	23.9	14+	0	0			193	-67	48	21	2	0	0	3.7	8	11.6	11	15	5	14	12	6.6	
MAJURO	3	1009.1		30.3	24.3	27.3	-0.2	31.7	31+	22.8	6+	0	0			283	-16	63	22		0	0	2.8	7	10.3	E	15+	0	8	23	8.4	65
PAGO PAGO	4	1012.2	1012.3	28.3	24.0	26.2	0.5	31.1	28	20.6	22	0	0	21.1	76	61	-127	38	13	0	0	0	5.1	11	13.0	SE	6	0	11	20	8.1	[illegible]
PONAPE R	37			32.2	22.9	27.6	0.8	33.9	24	21.1	20	21	0			476	51	91	31	3	0	0			7.6	NE	24+	0	14	17	8.1	39
TRUK MOEN ISLAND	2	1008.8		31.3	24.1	27.7	0.6	32.8	12+	22.2	19	10	0			361	19	85	27	1	0	0	3.2	17	13.4	NE	31	0	5	26	9.2	31
WAKE	3	1011.9	1012.2	31.2	24.3	27.8	-0.3	32.8	31+	21.1	15	12	0	24.4	85	315	153	109	21	1	0	0	4.3	9	13.4	S	14	7	10	14	6.6	67
YAP R	13	1006.8		30.6	23.6	27.1	-0.2	31.7	12+	21.1	5	0	0			355	-29	56	25	3	0	0	1.1	26	11.2	W	16+	0	8	23	8.8	[illegible]
PENNSYLVANIA																																
ALLENTOWN	118	1004.4	1016.2	27.6	17.7	22.8	0.7	33.3	4	8.3	21	4	0	15.7	71	147	41	37	15	11	0	0	1.1	25	11.2	35	6	3	15	13	6.7	
ERIE	223	991.2	1017.5	23.9	15.1	19.5	-0.2	31.7	28	5.6	25	0	0	15.7	85	281	176	76	17	10	0	0	2.1	22	9.4	22	21+	9	12	10	5.7	
HARRISBURG	102	1005.4	1017.9	28.6	18.3	23.5	0.2	33.9	22+	10.0	26	7	0	18.3	74	24	-58	6	9	6	0	0	1.3	26	10.7	SW	[illegible]	2	17	12	6.7	67
PHILADELPHIA	2	1016.9	1018.1	29.6	19.5	24.6	0.8	33.9	7+	12.8	26+	10	0	19.4	78	221	117	56	14	13	0	0	1.5	24	21.9	SW	[illegible]	3	14	14	6.5	55
PITTSBURGH	347	974.9	1016.6	25.5	14.6	20.1	-1.2	31.1	28	6.1	19	0	0	15.0	76	68	-12	20	12	7	0	0	1.4	24	14.3	24	6	5	11	15	6.9	37
SCRANTON	283	984.1	1018.0	25.5	15.3	20.4	-0.7	32.2	28	6.7	21	1	0	15.7	81	107	26	32	17	10	0	0	1.3	22	13.4	S	21	5	16	10	6.7	44
WILLIAMSPORT	160	999.0	1017.7	27.8	16.8	22.3	0.7	33.3	28	8.3	26	2	0	17.2	76	56	-29	19	12	12	0	0	0.6	27	8.9	31	17	2	16	13	6.6	
RHODE ISLAND																																
BLOCK ISLAND	34			24.6	18.6	21.6	0.9	30.0	11	13.3	21	0	0			124	26	39	9		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
	Elevation ground	Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							
RHODE ISLAND																																
PROVIDENCE	16	1015.2	1017.4	27.8	17.7	22.8	1.4	32.8	28+	9.4	26	5	0	17.8	76	54	-45	14	11	6	0	0	2.0	23	10.3	26	5	6	8	17	6.8	61
SOUTH CAROLINA																																
CHARLESTON	12	1019.0	1019.9	32.2	22.7	27.4	1.0	36.1	7	20.6	21+	16	0	22.2	77	207	43	41	14	11	0	0	1.2	15	13.4	19	3	7	11	13	6.3	74
CHARLESTON J	3			31.4	24.3	27.9	0.7	34.4	9+	21.7	20+	16	0			246	96	52	13		0	0										
COLUMBIA	65	1011.2	1019.1	31.4	20.3	25.9	-0.9	35.6	9	15.6	21	18	0	21.1	80	273	130	78	13	11	0	0	1.0	16	16.5	18	9	6	14	11	6.0	72
GRNVLLE-SPRTNBRG	292	984.8	1018.9	30.9	20.9	25.9	0.7	35.6	10	17.2	19	16	0	20.0	75	127	24	32	13	5	0	0	0.8	18	10.3	N	1	9	10	12	6.2	56
SOUTH DAKOTA																																
ABERDEEN	395	967.5	1013.8	26.1	11.3	18.7	-2.7	31.7	25+	3.3	11	0	0	11.1	66	63	10	20	11	7	0	0	0.4	33	13.4	17	29	7	15	9	5.9	
HURON	390	967.2	1013.0	27.1	12.4	19.7	-2.6	34.4	25	6.7	11	3	0	11.7	64	65	15	14	11	9	0	0	0.2	18	17.9	NW	26	5	17	9	5.9	72
RAPID CITY	964	905.5	1014.7	26.4	11.3	18.9	-3.1	33.9	24	6.7	28	2	0	10.0	60	45	8	15	12	13	0	0	1.2	33	15.2	NW	31+	9	13	9	5.5	73
SIOUX FALLS	432	963.8	1014.4	25.9	14.2	20.1	-2.1	33.3	1	8.3	11	1	0	12.8	65	143	71	82	11	10	0	0	0.5	14	11.2	15	25	6	12	13	6.1	
TENNESSEE																																
BRISTOL	459	966.1	1019.4	29.7	17.8	23.8	0.3	33.3	8+	12.8	21+	3	0	17.8	75	78	-16	29	10	10	0	0	0.3	25	13.0	31	24	3	20	3	6.0	
CHATTANOOGA	203	993.9	1018.0	33.3	22.1	27.7	2.1	36.1	6	18.3	21+	27	0	21.1	72	90	8	39	12	12	0	0	0.8	20	10.3	32	9+	4	18	9	6.2	54
KNOXVILLE	299	984.1	1018.3	31.2	20.9	26.1	0.9	35.6	6	15.6	20	14	0	21.1	79	147	65	37	10	9	0	0	0.6	27	12.5	17	2	8	14	9	5.9	80
MEMPHIS	79	1006.8	1016.8	33.0	23.2	28.1	1.2	36.1	31	18.9	19+	23	0	20.0	65	41	-43	19	4	4	0	0	1.1	17	7.6	15	11	9	14	8	5.3	75
NASHVILLE	180	996.3	1017.5	32.1	20.7	26.4	0.6	36.1	5	15.0	19	17	0	20.6	74	118	36	53	9	10	0	0	1.3	20	14.3	29	16	9	12	10	5.2	64
OAK RIDGE R	276			30.1	18.1	24.1	-0.4	33.3	31+	12.2	19	8	0			112	14	25	12		0	0			13.4		16	12	11	8	5.1	
TEXAS																																
ABILENE	544	951.9	1012.9	34.7	22.4	28.6	-0.1	38.3	23	19.4	12+	25	0	18.3	59	65	12	26	8	7	0	0	3.6	16	13.4	NE	11	10	13	8	5.0	72
AMARILLO	1098	892.3	1012.4	30.8	19.7	25.3	-0.1	37.2	4	15.6	11	15	0	17.2	66	125	51	38	11	12	0	0	4.2	18	11.6	20	27+	11	8	12	5.8	67
AUSTIN	182	992.6	1014.2	36.5	24.3	30.4	1.2	38.3	24+	23.3	31+	30	0	20.6	62	2	-54	1	2	1	0	0	2.8	16	11.2	SE	27+	9	17	5	4.9	85
BROWNSVILLE	6	1012.9	1013.3	35.2	24.7	29.9	0.8	37.8	2	22.8	30+	30	0	23.3	71	32	-35	20	6	6	0	0	4.1	15	11.6	S	23	12	12	7	5.0	80
CORPUS CHRISTI	12	1011.9	1013.5	35.7	25.1	30.4	0.9	37.8	2	22.8	4	30	0	23.9	72	10	-71	6	4	1	0	0	4.6	14	11.2	15	25+	8	19	4	5.1	84
DALLAS - FORT WORTH	168	992.9	1013.8	35.4	23.3	29.4	0.0	38.9	17	20.6	20+	28	0	21.7	67	59	2	39	5	5	0	0	2.4	17	13.4	35	1	12	12	7	4.8	
DEL RIO	313	976.3	1011.3	38.0	24.6	31.3	1.2	40.6	23+	23.3	30+	31	0	18.9	51	3	-28	2	2	2	0	0	4.9	12	10.3	12	27	12	11	8	4.9	
EL PASO	1194	881.5	1009.6	34.9	21.2	28.1	1.1	39.4	5	18.3	13	30	0	12.2	41	35	6	20	6	15	0	0	0.8	19	13.4	19	4	7	19	5	5.2	90
GALVESTON	2			30.3	25.9	28.1	-0.4	32.8	2+	23.3	31+	3	0			164	52	61	16		0	0			10.3	S	18					43
HOUSTON INTERCON	29	1011.2	1014.9	33.9	22.8	28.4	-0.2	37.8	3	20.6	6	27	0	22.2	75	113	3	42	15	14	0	0	1.3	12	10.3	14	28	2	16	13	6.5	57
LUBBOCK	992	904.2	1012.5	32.6	20.2	26.4	0.6	38.3	4	17.2	12	21	0	17.2	61	109	62	43	9	10	0	0	2.5	15	13.4	30	9	13	9	9	5.0	82
MIDLAND	869	915.3	1010.9	37.0	22.3	29.7	2.0	41.1	23	20.6	31+	31	0	15.6	47	9	-29	7	3	5	0	0	4.7	13	14.8	12	24	10	18	3	4.3	
PORT ARTHUR	5	1014.6		33.7	25.1	29.4	1.0	37.2	3	23.3	5	28	0	23.9	79	183	38	41	20	17	0	0	1.4	12	11.6	SW	22	1	16	14	7.2	58
SAN ANGELO	580	947.2	1011.9	36.6	23.6	30.1	0.9	40.6	23	21.7	31+	31	0	17.8	51	10	-27	8	2	4	0	0	2.9	12	10.7	14	26+	8	14	9	5.3	
SAN ANTONIO	240	986.1	1013.4	34.4	24.2	29.3	0.0	36.1	23+	21.1	4	30	0	21.1	66	2	-60	1	3	2	0	0	3.4	14	10.3	12	27+	3	23	5	5.6	68
VICTORIA	32	1010.2	1014.2	34.4	24.4	29.4	0.3	37.2	3	22.8	4	28	0	22.8	73	64	-16	33	10	8	0	0	2.6	13	16.5Y	E	12	5	17	9	5.6	
WACO	153	996.3	1013.8	37.2	24.9	31.1	1.2	40.0	12	20.0	2	29	0	22.2	64	50	4	34	7	3	0	0	3.2	15	11.2	36	12	8	14	9	5.6	
WICHITA FALLS	303	977.7	1013.4	34.9	21.9	28.4	-1.3	39.4	16	17.8	1	27	0	20.6	68	104	59	72	8	9	0	0	3.1	14	10.7	14	27	13	4	14	5.4	
UTAH																																
MILFORD	1533	846.9	1012.3	31.8	12.8	22.3	-0.2	37.8	2	5.6	28+	20	0			40	23	19	8		0	0			15.2	SW	7	13	12	6	4.6	74
SALT LAKE CITY	1286	871.0	1011.5	31.4	16.4	23.9	0.3	38.3	2	8.3	31	17	0	9.4	46	47	23	26	7	7	0	0	0.9	17	13.9	W	5	9	13	9	5.5	77
VERMONT																																
BURLINGTON	101	1003.7	1015.9	24.8	14.6	19.7	0.1	33.3	29	6.1	26+	2	0	15.0	76	159	65	75	16	7	0	0	1.8	18	11.2	S	22	1	13	17	7.3	48
VIRGINIA																																
LYNCHBURG	279	985.8		30.3	18.6	24.4	0.9	35.6	8	15.0	19	9	0			146	43	39	12		0	0	1.1	24	21.5	W	11	6	14	11	6.2	67
NORFOLK	7	1018.0	1019.0	32.3	22.1	27.2	2.3	38.9	7	15.0	26	17	0	19.4	68	116	-34	74	8	6	0	0	2.1	21	15.6	34	17	9	13	9	5.4	67
RICHMOND	50	1012.2	1018.4	32.9	20.2	26.6	1.9	38.3	12	12.2	26	19	0	21.7	78	156	28	81	10	7	0	0	1.1	20	11.6	NW	8	6	14	11	6.0	77
ROANOKE	350	977.7	1018.9	31.9	18.9	25.4	2.1	37.2	8+	13.3	19	18	0	17.8	69	58	-47	24	11	13	0	0	1.1	26	10.3	28	9	3	15	13	6.8	
WALLOPS ISLAND	3			29.1	21.3	25.2	1.2	37.8	7	13.3	26	8	0			102	8	67	9		0	0			16.5Y	SSW	14					
WASHINGTON																																
OLYMPIA	59	1007.1	1014.2	26.0	10.2	18.1	1.0	36.7	17	2.2	30	7	0	12.2	76	106	76	35	7	0	0	0	0.9	20	7.2	24	26+	13	8	10	5.2	
QUILLAYUTE	55	1007.5	1015.1	21.1	10.7	15.9	1.1	33.3	10	5.6	31	1	0	12.8	85	80	10	29	13	1	0	0	1.0	21	5.8	NW	10	6	5	18	6.8	37
SEATTLE U	6			25.2	14.9	20.1	1.8	33.9	12	11.1	30	2	0			139	117	49	7		0	0			13.4Y	SSW	28					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature								No of days			Average relative humidity	Precipitation			No of days		Snow Ice pellets		Wind		Fastest mile (1 6 kilometers)			No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4 7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
WASHINGTON																																
SEATTLE-TACOMA	122	994.0	1014.2	26.5	14.0	20.3	2.6	35.6	17+	10.6	31	6	0	12.8	68	91	64	39	8	0	0	0	0.9	24	13.0	SW	28	12	10	9	4.7	65
SPOKANE	718	929.0	1011.5	29.4	14.1	21.8	1.8	37.8	18	7.8	31+	14	0	7.2	44	32	17	15	9	2	0	0	1.1	20	13.0	NE	4	17	7	7	3.9	80
STAMPEDE PASS R	1206	880.1		21.1	11.7	16.4	3.2	31.7	17	3.3	31	0	0			146	87	38	10		0	0										
WALLA WALLA U	289			32.6	17.9	25.3	2.2	40.6	17	8.9	31	21	0			75	63	40	7		0	0			8.0	SW	29+	16	7	8	4.1	73
YAKIMA	321	973.9	1011.4	32.3	14.6	23.5	3.2	39.4	18+	5.6	27	21	0	9.4	43	29	23	13	7	2	0	0	1.7	30	10.7	31	28	17	8	6	4.0	
WEST INDIES																																
SAN JUAN P.R.	4	1013.9	1016.1	30.3	24.1	27.2	-0.2	32.8	18	21.7	3	2	0	22.2	78	112	-65	27	22	7	0	0	3.9	8	12.1	SE	2	1	18	12	6.5	63
WEST VIRGINIA																																
BECKLEY	763	933.3	1014.6	25.8	16.2	21.0	0.6	29.4	31	8.9	20	0	0	17.2	82	151	55	46	13	12	0	0	1.8	21	13.4	28	8	2	12	17	7.3	
CHARLESTON	286	985.1	1018.8	28.3	17.9	23.1	0.0	32.2	7	11.1	19	1	0	18.9	81	167	74	37	14	15	0	0	0.8	22	12.5	24	12	4	14	13	6.7	
ELKINS	594	949.9		26.6	14.3	20.4	0.8	30.6	28	7.2	19	0	0			142	40	36	14		0	0						2	14	15	7.2	
HUNTINGTON	252	988.5	1014.1	29.4	18.8	24.1	0.8	34.4	6	12.2	21	8	0	18.9	77	151	66	39	11	9	0	0	1.1	21	13.4	32	7	2	11	16	7.5	
PARKERSBURG U	187			28.5	18.1	23.3	0.1	32.8	31+	11.1	25	3	0			91	6	22	12		0	0			10.7	S	8					53
WISCONSIN																																
GREEN BAY	208	989.5	1015.0	24.9	12.3	18.6	-1.2	32.8	27	5.6	25	1	0	13.9	75	60	-6	32	14	1	0	0	2.1	23	14.8	S	27	4	13	14	6.8	73
LA CROSSE	199	990.9	1015.1	25.0	13.6	19.3	-2.6	32.2	27	6.7	18	1	0	14.4	77	74	-3		15	7	0											
MADISON	262	984.4	1015.5	24.4	11.8	18.1	-2.3	32.2	27	3.3	25	1	0	14.4	81	132	54	51	13	8	0	0	1.7	22	11.6	SW	27	3	12	16	7.3	53
MILWAUKEE	206	995.9	1015.7	24.2	14.9	19.6	-1.1	31.7	27	7.8	25	0	0	15.0	77	97	29	27	15	8	0	0	1.9	23	14.2	SW	4	4	12	15	6.8	57
WYOMING																																
CASPER	1627	839.3	1013.8	27.7	10.2	18.9	-1.9	32.8	14+	0.6	31	3	0	5.7	51	9	-6	3	7	10	0	0	1.1	29	17.9	34	22	9	8	14	5.8	
CHEYENNE	1867	814.1	1013.6	24.2	10.8	17.5	-2.3	30.6	7	6.7	28+	0	0	7.2	56	27	-10	9	9	14	0	0	1.6	27	16.5	SW	13	7	14	10	5.9	54
LANDER	1696	831.4	1014.1	26.2	10.8	18.5	-2.1	32.8	2	3.9	31	1	0	6.1	47	12	1	4	6	10	0	0	0.7	25	13.9	NW	5	9	12	10	5.1	70
SHERIDAN	1208	880.1	1015.1	26.1	9.4	17.8	-2.9	33.3	24	3.9	31	3	0	8.9	60	56	25	25	9	10	0	0	1.1	31	21.9	NW	30	6	15	10	5.7	62

HEATING DEGREE DAYS

(Base 65°F.)

AUGUST 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	0	0	0
HUNTSVILLE	0	0	0
MOBILE	0	0	0
MONTGOMERY	0	0	0
ALASKA			
ANCHORAGE	144	219	502
ANNETTE	119	381	442
BARROW	632	1434	1664
BARTER ISLAND	724	1566	1584
BETHEL	199	468	713
BETTLES	157	245	637
BIG DELTA	138	252	503
COLD BAY	344	678	887
FAIRBANKS	124	225	452
GULKANA	221	438	620
HOMER	273	595	785
JUNEAU	196	439	620
KING SALMON	246	571	673
KODIAK	360	681	651
KOTZEBUE	183	387	818
MC GRATH	134	245	576
NOME	272	546	952
ST. PAUL ISLAND	420	919	1141
TALKEETNA	178	323	542
UNALAKLEET	207	422	747
VALDEZ	305	585	766
YAKUTAT	293	585	735
ARIZONA			
FLAGSTAFF	19	28	145
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	0	0	0
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	0
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	0	0	5
BLUE CANYON	34	69	85
EUREKA U	200	502	518
FRESNO	0	0	0
LONG BEACH	0	0	0
LOS ANGELES	0	1	34
LOS ANGELES U	0	0	0
MT SHASTA R	45	66	101
OAKLAND	14	60	154
RED BLUFF	0	0	0
SACRAMENTO	0	0	0
SANDBERG R	10	13	17
SAN DIEGO	0	0	6
SAN FRANCISCO	48	151	177
SAN FRANCISCO U	116	313	379
SANTA MARIA	27	108	214
STOCKTON	0	0	0
COLORADO			
ALAMOSA	51	70	151
COLORADO SPRINGS	22	24	22
DENVER	14	16	0
GRAND JUNCTION	1	1	0
PUEBLO	4	4	0
CONNECTICUT			
BRIDGEPORT	3	7	0
HARTFORD	8	9	12
DELAWARE			
WILMINGTON	1	1	0
DIST.OF COLUMBIA			
WASHINGTON DULLES	2	3	0
WASHINGTON NATIONAL	0	0	0
FLORIDA			
APPALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	0	0
PENSACOLA	0	0	0
TALLAHASSEE	0	0	0
TAMPA	0	0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	0	0	0
ATLANTA	0	0	0
AUGUSTA	0	0	0
COLUMBUS	0	0	0
MACON	0	0	0
ROME	0	0	0
SAVANNAH	0	0	0
IDAHO			
BOISE	32	40	12
LEWISTON	17	33	17
POCATELLO	38	39	20
ILLINOIS			
CAIRO U	0	0	0
CHICAGO O HARE	8	8	25
CHICAGO MIDWAY	5	5	8
MOLINE	5	5	11
PEORIA	6	6	8
ROCKFORD	20	20	22
SPRINGFIELD	2	2	8
INDIANA			
EVANSVILLE	0	0	0
FORT WAYNE	11	13	12
INDIANAPOLIS	0	0	5
SOUTH BEND	18	20	30
IOWA			
BURLINGTON	8	8	8
DES MOINES	3	3	13
DUBUQUE	43	44	38
SIOUX CITY	9	9	10
WATERLOO	56	58	33
KANSAS			
CONCORDIA	0	0	5
DODGE CITY	0	0	0
GOODLAND	10	12	0
TOPEKA	0	0	0
WICHITA	0	0	0
KENTUCKY			
COVINGTON	2	2	0
LEXINGTON	0	0	0
LOUISVILLE	0	0	0
LOUISIANA			
ALEXANDRIA	0	0	0
BATON ROUGE	0	0	0
LAKE CHARLES	0	0	0
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	93	149	206
PORTLAND	54	83	82
MARYLAND			
BALTIMORE	0	0	0
MASSACHUSETTS			
BLUE HILL OBS R	17	24	20
BOSTON	4	4	8
WORCESTER	32	48	34
MICHIGAN			
ALPENA	156	205	185
DETROIT	5	5	11
DETROIT METRO	17	18	21
FLINT	35	42	50
GRAND RAPIDS	48	51	35
HOUGHTON LAKE	134	163	153
LANSING	50	57	36
MARQUETTE U	126	176	139
MUSKEGON	54	61	52
SAULT STE MARIE	246	357	221
MINNESOTA			
DULUTH	196	242	171
INTERNATIONAL FALLS	246	280	178
MINNEAPOLIS	35	35	32
ROCHESTER	60	61	56
ST CLOUD	90	96	55
MISSISSIPPI			
JACKSON	0	0	0
MERIDIAN	0	0	0
MISSOURI			
COLUMBIA REGIONAL	0	0	0
KANSAS CITY	0	0	0
ST JOSEPH	0	0	5
ST LOUIS	0	0	0
SPRINGFIELD	0	0	6
MONTANA			
BILLINGS	59	59	25
GLASGOW	140	172	45
GREAT FALLS	119	156	60
HAVRE	95	115	58
HELENA	92	144	90
KALISPELL	97	182	198
MILES CITY	58	58	25
MISSOULA	76	135	110
NEBRASKA			
GRAND ISLAND	1	1	6
LINCOLN	0	0	0
NORFOLK	5	5	17
NORTH PLATTE	34	36	15
OMAHA	3	3	17
SCOTTSBLUFF	23	23	8
VALENTINE	35	35	18
NEVADA			
ELKO	27	27	87
ELY	43	52	85
LAS VEGAS	0	0	0
RENO	12	22	67
WINNEMUCCA	28	30	48
NEW HAMPSHIRE			
CONCORD	58	95	61
MT WASHINGTON OBS	551	1089	1060
NEW JERSEY			
ATLANTIC CITY	0	2	0
ATLANTIC CITY U	0	0	0
NEWARK	0	0	0
TRENTON U	0	0	0
NEW MEXICO			
ALBUQUERQUE	0	0	0
CLAYTON	3	3	0
ROSWELL	0	0	0
NEW YORK			
ALBANY	51	58	31
BINGHAMTON	61	76	61
BUFFALO	40	45	45
NEW YORK U	0	0	0
NEW YORK KENNEDY	7	7	0
NEW YORK LA GUARDIA	0	0	0
ROCHESTER	44	53	35
SYRACUSE	60	74	29
NORTH CAROLINA			
ASHEVILLE	0	0	0
CAPE HATTERAS R	0	0	0
CHARLOTTE	0	0	0
GREENSBORO	0	0	0
RALEIGH	0	0	0
WILMINGTON	0	0	0
NORTH DAKOTA			
BISMARCK	111	128	53
FARGO	95	102	46
WILLISTON	131	139	57
OHIO			
AKRON	21	25	25
CINCINNATI ABBE OB	1	1	0
CLEVELAND	26	30	26
COLUMBUS	17	18	8
DAYTON U	7	7	7
MANSFIELD	24	33	10
TOLEDO	29	32	23
YOUNGSTOWN	28	37	31
OKLAHOMA			
OKLAHOMA CITY	0	0	0
TULSA	0	0	0
OREGON			
ASTORIA	82	272	314
BURNS U	86	133	98
EUGENE	20	88	92
MEDFORD	4	18	32
PENDLETON	35	55	19
PORTLAND	19	59	104
SALEM	23	80	96
SEXTON SUMMIT R	74	200	212
PENNSYLVANIA			
ALLENTOWN	10	10	6
ERIE	51	60	67
HARRISBURG	5	5	0
PHILADELPHIA	0	0	0
PITTSBURGH	41	52	23
PITTSBURGH U	7	9	6
SCRANTON	37	51	25
WILLIAMSPORT	15	19	14
RHODE ISLAND			
BLOCK ISLAND	3	3	20
PROVIDENCE	6	6	10
SOUTH CAROLINA			
CHARLESTON	0	0	0
CHARLESTON U	0	0	0
COLUMBIA	0	0	0
GRNVLLE-SPRTNBRG	0	0	0
SOUTH DAKOTA			
ABERDEEN	39	41	33
HURON	27	27	22
RAPID CITY	48	49	30
SIOUX FALLS	22	22	28
TENNESSEE			
BRISTOL	0	0	0
CHATTANOOGA	0	0	0
KNOXVILLE	0	0	0
MEMPHIS	0	0	0
NASHVILLE	0	0	0
OAK RIDGE	0	0	0
TEXAS			
ABILENE	0	0	0
AMARILLO	0	0	0
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS FT WORTH	0	0	0
DEL RIO	0	0	0
EL PASO	0	0	0
GALVESTON	0	0	0
HOUSTON INTERCON	0	0	0
LUBBOCK	0	0	0
MIDLAND	0	0	0
PORT ARTHUR	0	0	0
SAN ANGELO	0	0	0
SAN ANTONIO	0	0	0
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	16	16	7
SALT LAKE CITY	11	11	5
VERMONT			
BURLINGTON	53	77	69
VIRGINIA			
LYNCHBURG	0	0	0
NORFOLK	0	0	0
RICHMOND	0	0	0
ROANOKE	0	0	0
WALLOPS ISLAND	0	0	0
WASHINGTON			
OLYMPIA	90	256	192
QUILLAYUTE	142	382	389
SEATTLE	41	119	120
SEATTLE-TACOMA	43	77	162
SPOKANE	56	113	68
STAMPEDE PASS R	192	564	577
WALLA WALLA U	18	28	17
YAKIMA	24	56	57
WEST VIRGINIA			
BECKLEY	11	19	28
CHARLESTON	2	2	0
ELKINS	17	39	56
HUNTINGTON	0	0	0
PARKERSBURG U	0	0	0
WISCONSIN			
GREEN BAY	64	67	76
LA CROSSE	40	41	27
MADISON	95	101	53
MILWAUKEE	47	55	51
WYOMING			
CASPER	51	54	30
CHEYENNE	74	95	53
LANDER	50	52	23
SHERIDAN	73	85	59

COOLING DEGREE DAYS

(Base 65°F.)

AUGUST 1977

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	537	1917	1571
HUNTSVILLE	477	1707	1488
MOBILE	576	2241	2016
MONTGOMERY	523	2089	1784
ALASKA			
ANCHORAGE	3	11	0
ANNETTE	60	60	14
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	8	8	0
BETTLES	36	90	17
BIG DELTA	39	65	34
COLD BAY	0	0	0
FAIRBANKS	54	98	52
GULKANA	1	5	0
HOMER	0	0	0
JUNEAU	1	1	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	1	19	0
MC GRATH	19	36	14
NOME	10	21	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	2	8	6
UNALAKLEET	13	22	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	61	171	134
PHOENIX	907	3330	2678
TUCSON	669	2293	2148
WINSLOW	377	1089	1035
YUMA	849	3028	3120
ARKANSAS			
FORT SMITH	528	1852	1669
LITTLE ROCK	482	1835	1608
CALIFORNIA			
BAKERSFIELD	635	2103	1711
BISHOP	378	1055	903
BLUE CANYON	168	420	257
EUREKA U	0	0	0
FRESNO	494	1585	1338
LONG BEACH	360	829	644
LOS ANGELES	193	354	375
LOS ANGELES U	334	852	765
MT SHASTA R	144	354	255
OAKLAND	59	108	70
RED BLUFF	548	1715	1513
SACRAMENTO	284	835	911
SANDBERG R	263	684	630
SAN DIEGO	258	521	468
SAN FRANCISCO	26	66	56
SAN FRANCISCO U	17	36	5
SANTA MARIA	40	64	45
STOCKTON	436	1339	1000
COLORADO			
ALAMOSA	25	63	88
COLORADO SPRINGS	142	449	423
DENVER	182	706	566
GRAND JUNCTION	470	1402	1003
PUEBLO	293	1030	880
CONNECTICUT			
BRIDGEPORT	290	633	642
HARTFORD	259	816	544
DELAWARE			
WILMINGTON	328	949	861
DIST. OF COLUMBIA			
WASHINGTON DULLES	357	981	831
WASHINGTON NATIONAL	434	1455	1204
FLORIDA			
APPALACHICOLA U	495	1920	1998
DAYTONA BEACH	554	2318	2077
FORT MYERS	521	2303	2578
JACKSONVILLE	531	2067	1944
KEY WEST	567	3097	3366
LAKELAND U	527	2456	2365
MIAMI	574	2814	2752
ORLANDO	521	2304	2300
PENSACOLA	484	2029	2073
TALLAHASSEE	494	1944	1975
TAMPA	565	2494	2402
WEST PALM BEACH	548	2630	2577
GEORGIA			
ATHENS	417	1651	1430
ATLANTA	403	1451	1305
AUGUSTA	465	1841	1639
COLUMBUS	532	2109	1729
MACON	512	2062	1857
ROME	481	1605	1339
SAVANNAH	508	2090	1834
HAWAII			
HILO	415	2529	1976
HONOLULU	541	3156	2713
KAHULUI	476	2633	2404
LIHUE	469	2622	2385
IDAHO			
BOISE	306	761	638
LEWISTON	410	963	584
POCATELLO	164	484	413
ILLINOIS			
CAIRO U	441	1893	1530
CHICAGO O HARE	229	1032	601
CHICAGO MIDWAY	225	1133	822
MOLINE	199	995	810
PEORIA	209	1022	866
ROCKFORD	138	799	655
SPRINGFIELD	251	1234	961
INDIANA			
EVANSVILLE	376	1575	1162
FORT WAYNE	197	920	664
INDIANAPOLIS	286	1182	859
SOUTH BEND	173	918	625
IOWA			
BURLINGTON	188	1040	892
DES MOINES	232	1255	837
DUBUQUE	98	655	564
SIOUX CITY	152	807	858
WATERLOO	92	650	630
KANSAS			
CONCORDIA	280	1229	1132
DODGE CITY	396	1598	1226
GOODLAND	199	781	829
TOPEKA	360	1340	1180
WICHITA	404	1563	1429
KENTUCKY			
COVINGTON	285	1044	935
LEXINGTON	337	1269	1026
LOUISVILLE	396	1454	1083
LOUISIANA			
ALEXANDRIA	532	2214	1754
BATON ROUGE	513	2150	2025
LAKE CHARLES	514	2066	2106
NEW ORLEANS	532	2276	2078
SHREVEPORT	479	1895	2004
MAINE			
CARIBOU	77	222	128
PORTLAND	109	289	241
MARYLAND			
BALTIMORE	401	1228	962
MASSACHUSETTS			
BLUE HILL OBS R	204	538	424
BOSTON	272	816	600
WORCESTER	150	393	363
MICHIGAN			
ALPENA	48	248	208
DETROIT	238	947	668
DETROIT METRO	198	779	593
FLINT	140	594	405
GRAND RAPIDS	143	670	533
HOUGHTON LAKE	50	349	242
LANSING	162	663	495
MARQUETTE U	35	229	209
MUSKEGON	114	492	431
SAULT STE MARIE	13	86	139
MINNESOTA			
DULUTH	6	122	176
INTERNATIONAL FALLS	4	187	176
MINNEAPOLIS	76	672	555
ROCHESTER	68	522	453
ST CLOUD	44	422	414
MISSISSIPPI			
JACKSON	534	2059	1860
MERIDIAN	554	1978	1810
MISSOURI			
COLUMBIA REGIONAL	377	1242	1090
KANSAS CITY	298	1245	1227
ST JOSEPH	292	1275	1165
ST LOUIS	360	1473	1261
SPRINGFIELD	449	1439	1177
MONTANA			
BILLINGS	102	511	460
GLASGOW	29	315	409
GREAT FALLS	48	273	303
HAVRE	62	357	368
HELENA	54	212	237
KALISPELL	62	129	109
MILES CITY	90	652	682
MISSOULA	163	292	178
NEBRASKA			
GRAND ISLAND	214	1128	936
LINCOLN	231	1159	1032
NORFOLK	174	961	846
NORTH PLATTE	149	656	742
OMAHA	189	1093	854
SCOTTSBLUFF	194	855	620
VALENTINE	116	675	685
NEVADA			
ELKO	210	588	316
ELY	74	184	191
LAS VEGAS	781	2643	2348
RENO	167	468	305
WINNEMUCCA	265	714	382
NEW HAMPSHIRE			
CONCORD	156	450	332
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	325	841	766
ATLANTIC CITY U	355	827	706
NEWARK	321	1061	895
TRENTON U	312	1009	853
NEW MEXICO			
ALBUQUERQUE	392	1187	1149
CLAYTON	256	855	686
ROSWELL	564	1974	1354
NEW YORK			
ALBANY	146	521	532
BINGHAMTON	115	401	341
BUFFALO	142	528	401
NEW YORK U	338	1104	923
NEW YORK KENNEDY	268	759	751
NEW YORK LA GUARDIA	311	967	915
ROCHESTER	164	611	486
SYRACUSE	138	471	497
NORTH CAROLINA			
ASHEVILLE	279	853	756
CAPE HATTERAS R	453	1484	1200
CHARLOTTE	465	1572	1326
GREENSBORO	417	1403	1147
RALEIGH	414	1412	1177
WILMINGTON	487	1807	1578
NORTH DAKOTA			
BISMARCK	25	356	460
FARGO	23	479	452
WILLISTON	30	404	397
OHIO			
AKRON	223	821	566
CINCINNATI ABBE OB	308	1208	1027
CLEVELAND	175	610	544
COLUMBUS	242	927	712
DAYTON U	255	1043	821
MANSFIELD	190	663	717
TOLEDO	167	707	615
YOUNGSTOWN	171	615	469
OKLAHOMA			
OKLAHOMA CITY	491	1717	1556
TULSA	525	1969	1612
OREGON			
ASTORIA	18	18	13
BURNS U	214	424	267
EUGENE	177	239	210
MEDFORD	352	760	491
PENDLETON	348	709	589
PORTLAND	233	365	265
SALEM	187	256	205
SEXTON SUMMIT R	212	280	117
PACIFIC AREA			
GUAM TAGUAC R	474	3355	3312
JOHNSTON	520	3359	3305
KORO R	509	4144	3974
KWAJALEIN	564	4183	4084
MAJURO	510	3917	3922
PAGO PAGO	445	3843	3547
PONAPE R	522	4094	3770
TRUK MOEN ISLAND	529	4142	3915
WAKE	534	3552	3528
YAP R	493	3927	3929
PENNSYLVANIA			
ALLENTOWN	263	865	690
ERIE	121	405	340
HARRISBURG	297	909	906
PHILADELPHIA	355	1053	960
PITTSBURGH	141	547	578
SCRANTON	162	504	548
WILLIAMSPORT	241	738	626
RHODE ISLAND			
BLOCK ISLAND	193	426	316
PROVIDENCE	260	736	487
SOUTH CAROLINA			
CHARLESTON	518	2224	1654
CHARLESTON U	541	2200	1834
COLUMBIA	429	1806	1706
GRNVLLE-SPRTNBRG	431	1615	1320
SOUTH DAKOTA			
ABERDEEN	67	561	538
HURON	113	751	671
RAPID CITY	95	523	556
SIOUX FALLS	123	814	671
TENNESSEE			
BRISTOL	309	1044	936
CHATTANOOGA	532	1757	1368
KNOXVILLE	441	1504	1313
MEMPHIS	551	2194	1684
NASHVILLE	458	1710	1421
OAK RIDGE	324	1068	1160
TEXAS			
ABILENE	579	1966	[illegible]
AMARILLO	389	1371	1233
AUSTIN	681	2295	2261
BROWNSVILLE	656	2789	2834
CORPUS CHRISTI	677	[illegible]	2556
DALLAS FT WORTH	626	2392	2054
DEL RIO	733	2450	2659
EL PASO	552	1817	1761
GALVESTON	555	2131	2214
HOUSTON INTERCONT	565	2041	2207
LUBBOCK	455	1612	1421
MIDLAND	638	2133	1828
PORT ARTHUR	621	2392	2146
SAN ANGELO	662	2212	2194
SAN ANTONIO	618	2204	2336
VICTORIA	625	2347	2382
WACO	719	2553	2252
WICHITA FALLS	571	2051	2122
UTAH			
MILFORD	249	655	628
SALT LAKE CITY	328	985	817
VERMONT			
BURLINGTON	138	[illegible]	376
VIRGINIA			
LYNCHBURG	349	1129	957
NORFOLK	512	1537	1190
RICHMOND	467	1474	1155
ROANOKE	409	1266	896
WALLOPS ISLAND	392	1072	919
WASHINGTON			
OLYMPIA	87	108	95
QUILLAYUTE	15	17	8
SEATTLE	144	174	166
SEATTLE-TACOMA	156	228	121
SPOKANE	254	472	354
STAMPEDE PASS R	88	101	16
WALLA WALLA	415	925	767
YAKIMA	319	635	443
WEST INDIES			
SAN JUAN P.R.	502	3631	3238
WEST VIRGINIA			
BECKLEY	169	578	433
CHARLESTON	277	1031	915
ELKINS	142	[illegible]	355
HUNTINGTON	330	1194	951
PARKERSBURG U	286	1024	907
WISCONSIN			
GREEN BAY	87	529	378
LA CROSSE	100	743	649
MADISON	88	612	440
MILWAUKEE	122	544	421
WYOMING			
CASPER	92	460	418
CHEYENNE	38	223	306
LANDER	67	376	356
SHERIDAN	46	[illegible]	414

STORM SUMMARY

AUGUST 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS
Alabama												3		1		4													
Alaska																												5	
Arizona											3	5				4												6	5
Arkansas												5		1	1	4													
California																												6	7
Colorado	6	4		1	5			5	2			3	[illegible]		5	4	2											4	5
Connecticut									2						1	5													
Delaware	1	1			3							4				3												3	
Florida	3	3			4							4			8	5													
Georgia	1	1		1	3							3		1	3													4	
Hawaii *																													
Idaho									4			4				5												4	5
Illinois	20	2	6	56	7			[illegible]	6	1	4	5	2	2	3	6												2	2
Indiana								[illegible]	2			4	[illegible]			4												6	2
Iowa	6	2		1	6			4	5		5	5		6	2	5	4											6	
Kansas	2	1						6	6			6	4		1	5												5	5
Kentucky	1	1			4				6		8	6	3															2	
Louisiana												2			1	6												5	
Maine	1	1			4							2				2												4	
Maryland & DC	1	1			2				3			4		1		4												4	
Massachusetts	1	1		2	4									1		5													
Michigan	5	4			5				C			5	C	1	1	5													
Minnesota	3	2		23	6			4	5			1	4			5												6	
Mississippi	2	2			3			[illegible]	2			4	[illegible]			4	2											2	2
Missouri	1	1			3			4	4			4				4													
Montana *																													
Nebraska	8	6			6			5	6			6	6			5													
Nevada	1	1																										5	
New Hampshire *																													
New Jersey	1	1		1	4									3															
New Mexico								[illegible]	2			4	[illegible]	2	2													4	2
New York								4	3	1		5		5	9	5												5	
North Carolina	1	1			4			4	1			5	5		6														
North Dakota	1	1			4			5	5		7	5																	
Ohio								6	C		1	6		2	2	4													
Oklahoma	2	2			4			4	4		3	5		1	5	2												6	
Oregon *																													
Pacific *																													
Pennsylvania	1	1		1	2			1			1	4		2	7	5	2											5	
Puerto Rico *																													
Rhode Island															1	5													
South Carolina												4		1	1	4													
South Dakota								4	5			5	6			5	5												
Tennessee	1	1			4									2	4	5												5	4
Texas	5	4			4			3	7		1	5		1	1	4	[illegible]											3	2
Utah *																													
Vermont *																													
Virginia	3	3		1	4			3	4	1	1	5	3			5												4	3
Virgin Islands *																													
Washington															2														
West Virginia												4		1														6	
Wisconsin	4	4		11	6			5	C		5	5	C		1	5													
Wyoming								6	C			4		1	1														

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

AUGUST 1977

Herbert J. Thompson, Office of Hydrology

Several severe flash flood events occurred during the month. The most serious of which was August 15-17 in the Imperial Valley of California and resulted from rainfall associated with Hurricane "Doreen." Losses exceeded $17 million. Urban and flash flooding in the Minneapolis-St. Paul metropolitan area caused losses of $6 million August 30-31, and serious flash flooding also struck the Tug Fork and Guyandotte River Basins in West Virginia. Widespread flash flooding also occurred in Arizona and New Mexico, some of which was also caused by remnants of "Doreen," and in Iowa. Losses of $750 thousand were reported in Parke County, Indiana, $500 thousand in southeastern Colorado, and $721 thousand in Comanche County, Oklahoma. Smaller scale flash flooding was reported in Pennsylvania, South Carolina, Nebraska, Kansas, Utah, and Colorado.

The only significant river flooding occurred in Iowa, although minor flooding occurred in several areas including western New York State, Nebraska, Kansas, Missouri, and Wabash River Basin in Indiana, the Cache River in Arkansas, and the Kenai Peninsula in Alaska.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
Rainfall was well above normal over most of the eastern portion of the drainage. The only flooding reported was along Ellicott Creek in western New York State with some road closures and basement flooding.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
Urban flooding in Oneonta, NY, in the upper Susquehanna Basin the evening of the 10th resulted from rainfall of about 3.5 inches deposited by two severe thunderstorms. Losses were from flooded streets and basements and debris removal from streams and culverts. Considerable damage was also caused by strong winds and two deaths by lightning.	0	N.A.
Widespread small stream flooding was reported in southeastern Pennsylvania and southern New Jersey on the 1st with urban flooding in the Philadelphia-Trenton area, where more than 5 inches of rain fell. Flash flooding was reported along Rock Creek in the Maryland suburbs of Washington, DC, on the 24th.	0	N.A.
In the southern portion of the drainage locally heavy storm rainfall amounts of 4 to 5 inches were reported, but due to the abnormally dry soil conditions, no river flooding occurred. Urban and flash flooding occurred in the Columbia, SC, area on the 1st with 5.3 inches of rain recorded - 2.4 inches in 90 minutes.	0	N.A.
UPPER MISSISSIPPI BASIN		
Severe urban and flash flooding occurred the night of the 30th-31st in the Minneapolis-St. Paul metropolitan area and east into Wisconsin. There were three relatively small areas that received more than 7 inches of rainfall: the southern shores of Lake Minnetonka; Richfield, International Airport, northern Bloomington, Mendota Heights, and the southernmost parts of Minneapolis and St. Paul; and Afton, Lakeland, St. Croix Beach, and east into Wisconsin. An area of 832 square miles in Minnesota received more than 4 inches. The intensity of this storm was such that long time records were broken for periods of	0	6,000

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
UPPER MISSISSIPPI BASIN-Cont'd		
15 minutes to 3 hours as tabulated below for the Minneapolis-St. Paul Airport.		

Time Element	Old Record	New Record-1977
15-Minute Rainfall	1.17 inches-June 1914	1.22
30-Minute Rainfall	1.98 inches-August 1914	2.12
1-Hour Rainfall	2.27 inches-August 1914	2.82
2-Hour Rainfall	2.99 inches-July 1949	4.48
3-Hour Rainfall	3.87 inches-July 1949	5.98
24-Hour Rainfall	7.80 inches-June 1892	7.36

The 24-hour amount of 7.36 inches was the second highest of record for that time period. The point rainfall amounts are estimated to have a recurrence interval of 200 years. Widespread basement flooding and foundation damage occurred in the area of heaviest rainfall. Losses in Hennepin County were initially estimated at $3.5 million with total losses expected to approach $6 million.

In Iowa several heavy rain events occurred during August but due to the unusually dry antecedent conditions no serious flooding resulted. However, minor to moderate flooding occurred on a number of streams and several others approached flood stage. Early on the 7th rains of 2 to 6 inches fell over the Cedar Creek Basin resulting in a crest 4 feet over flood stage at Bussey with flooding of crop land. On the 8th rains of about 4 inches caused flash flooding along Honey and Minerva Creeks near Marshalltown and lowland flooding occurred along the Upper South Skunk and Squaw Creek Basins from rains of 3 to 7 inches. However, no reporting stations exceeded flood stage. On the 15th-16th very heavy rains of up to 8 inches occurred in central eastern Iowa with the South Skunk and Iowa rivers cresting about 3 feet over flood stage at Ames and Marshalltown, respectively, flooding cropland. The failure of a levee along a creek in Marshalltown flooded a mobile home park with some property damage. Small stream and flash flooding was reported in eastern Iowa. West central Iowa received up to 9 inches the 25th-26th which caused a crest more than 8 feet over flood stage on the South River at Ackworth and 5 feet of flooding on the Middle River at Indianola. From 2 to 3 feet of flooding occurred along the South Raccoon and North Rivers and minor flooding on Whitebreast Creek and the Raccoon River. Another 3 inches of rain over much of the same area on the 27th caused a second similar period of flooding on the North, Middle, and South Rivers and Whitebreast Creek.	0	N.A.
MISSOURI RIVER BASIN		
On the 15th 4 to 5 inches of rain occurred from thunderstorms in the Sioux Falls, SD, area, resulting in urban flooding. No reporting stations exceeded flood stage.	0	N.A.
Flash flooding was reported along the Niobrara River in northwestern Nebraska on the 17th. The United States Geological Survey reported the peak discharge of 1,650 c.f.s. was the highest of record and more than twice the previous maximum in 1969.	0	N.A.
Southeast Nebraska received monthly totals of from 8 to 14	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN-Cont'd		
inches with minor flooding reported on the South Loup River, Wahoo Creek, Turkey Creek, and the Little Blue River near Fairbury, where two brief periods of flooding were noted.		
This August was the wettest on record in southwestern Iowa with records going back to 1890. The monthly total averaged 12.1 inches, which was also the second highest for any month. From 3 to 7 inches on the 27th and another 2 to 4 inches on the 30th over portions of the area caused extensive flooding. The Nishnabotna River crested more than 8 feet over flood stage at Hamburg on the 28th, and about 5 feet of flooding occurred on the Nodaway River on the 31st. The area of heavy rainfall also included northwestern Missouri, where crests about 4 feet over flood stage occurred twice on the Tarkio River and minor flooding on the Little Platte.	0	N.A.
Several heavy rainfall events occurred within the Kansas portion of the Kansas River Basin with resultant flooding generally minor in nature. On the 4th-5th 4 to 5 inch rains fell over the Stranger Creek Basin causing a rise to bankfull stage. On the 15th-16th an isolated thunderstorm produced amounts of 3 to 4 inches over the Buffalo Creek Basin with a crest less than 2 feet over flood stage inundating Highway 28 west of Jamestown. On the 22d-23d widespread thunderstorm activity occurred over the state but the only flooding was in the north central portion where Fancy Creek crested 4 feet over flood stage near Winkler, and about 2 feet of flooding occurred on the Republican River at Clay Center. Unofficial amounts of 6 to 7 inches fell over the Wolf and Paradise Creek Basins on the 25th forcing the evacuation of several families in the Paradise area. No stage reports are received from these two streams. Amounts of 2 to 3 inches caused about 3 feet of flooding on the Black Vermillion River on the 28th.	0	N.A.
OHIO RIVER BASIN		
Flash flooding was reported in Butler, Pa, on the 5th from rains of up to 3 inches with water in basements.	0	N.A.
Heavy rainfall on the 12th-14th over the Tug Fork and Guyandotte Basins in West Virginia caused flash flooding in the McDowell, Wyoming, Logan, and Mingo counties. Larger streams all crested below flood stage. Rainfall amounts of about 5 inches for the 24 hours ending at 7 a.m. on the 14th were reported from several stations in the area. The Red Cross reported 863 families affected in Logan and Mingo Counties with 12 persons injured. Losses included: 22 homes destroyed and 57 with major damage; 17 mobile homes destroyed and 47 with major damage; 12 condominiums destroyed and 10 with major damage; and 37 small businesses destroyed or receiving major damage. In Kentucky, this storm produced minor flooding on the Licking River at Salyersville, and an isolated storm caused the Rolling Fork to crest just below flood stage at Boston on the 25th.	0	N.A.
Cloudburst type of rainfall occurred near Tangier in northern Parke County, Indiana, on the 6th. Amounts of 7 to 9 inches fell in less than 6 hours with 24 hour totals of 10 to 13 inches reported. The most intense rainfall occurred over a sparsely populated area of less than 75 square miles. Small streams affected included Rush, Mill, Green, and Sugar Creeks. No reporting stations exceeded flood stage. Losses were primarily to	0	750

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
county roads and bridges with two bridges destroyed and 10 bridge approaches washed out, disrupting transportation in the area for several months. A mobile home was washed downstream and two homes were flooded. Elsewhere in the Wabash Basin minor flooding occurred on the Wabash at Montezuma, IN, on the 12th and on the Little Wabash near Clay City, IL on the 25th.		
ARKANSAS RED RIVER BASINS		
Flash flooding occurred between Rocky Ford and Manzanola, Colorado, early on the 11th. Damage was primarily agricultural. A rainfall amount of 2 inches was reported at Rocky Ford.	0	500
Severe flash flooding also occurred along West Cache Creek and its tributaries in Comanche County in southern Oklahoma late on the 27th. An average of 7.7 inches of rain fell in a six hour period with storm totals ranging from 4 to over 12 inches. The recurrence interval of such a storm is well over 100 years. The United States Geological Survey reported record peak discharges on streams in the area ranging from 120 to 2,200 c.f.s. per square mile. It is believed to be the worst flooding since 1923 by a local resident. Losses include: $225,000 to residences and furnishings; $181,000 agricultural (crops, livestock, fences, and equipment); and $300,000 to roads and bridges.	0	721
WEST GULF OF MEXICO DRAINAGE		
Flash flooding struck a number of New Mexico communities. A resident of House, NM, died of a heart attack on the 2d while attempting to protect his home from flooding. Some 7 inches of rain at Colonias on the 28th caused flooding there and broke 3 small dams at the Los Estras dam site. Widespread rains on the 18th-19th caused flooding in Vaughn and Lovington. Other communities affected included Clovis on the 7th, Roswell on the 11th, Santa Fe on the 10th and 12th, Gallisteo on the 14th, Socorro on the 15th, Ruidoso on the 21st, Las Cruces on the 21st and 24th, Fort Sumner on the 29th, and Albuquerque and Espanola on the 30th.	1	N.A.
GREAT BASIN		
Flash flooding occurred in the Logan, UT, area flooding basements of about 50 homes with losses estimated at $20,000. On the 1st about 350 feet of the Highline Canal near Porcupine Reservoir was washed out with about $20,000 damage.	0	40
GULF OF CALIFORNIA DRAINAGE		
Flash flooding the evening of the 19th northeast of Grand Junction, CO, along Parachute, Roan, and Brush Creeks washed out two bridges and inundated some farmland.	0	N.A.
In Utah relatively minor flash flooding was reported in the vicinity of Hanksville, Zion National Park, and St. George.	0	N.A.
Widespread heavy rainfall associated with Hurricane Doreen caused numerous flash flood events the 15th to 18th in New Mexico and Arizona. Among the communities affected in New Mexico were	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GULF OF CALIFORNIA DRAINAGE-Cont'd		
Gallup, Lordsburg, and Zuni, where 12 families were evacuated. In Arizona extensive flooding of county roads occurred in the Yuma area with some houses also damaged; $91,000 losses to roads in the Payson area; $250,000 damage to 15 homes and 10 businesses in Bullhead City, some flooding in the Chimle area and 3 homes washed away in Sunflower. Flash flooding was also reported near Salome, AZ, on the 7th, near Buckeye, AZ, on the 9th, Yavapai and Mojave Counties in Arizona on the 23d, and Farmington and Lordsburg, NM, on the 11th.		
By far the most serious flooding associated with hurricane Doreen occurred in the Imperial Valley of Southern California. Record breaking rainfall averaged 3 inches for the 15th-17th over the area with some high elevation points receiving 7 to 8 inches. Highlights of the flooding include: a break in the Highline Canal in the northeast section of Imperial County caused substantial road, crop, and property damage and the inundation of the town of Niland; the Imperial Irrigation District's 3,100 mile network of canals and ditches was damaged in numerous places; a record peak discharge was reported by the United States Geological Survey on Borrego Palm Creek near Borrego Springs; Interstate Highway 8, and State Highways 86 and 78 were closed to traffic from flood damage; an earthen dam in Henderson Canyon in San Diego County failed, washed out several other small dams downstream and flooded 20 expensive homes in the DeAnze Country Club area at the foot of the Canyon; in San Bernardino County flash flooding 45 miles north of Barstow washed out a section of Interstate Highway 15 and 474 homes were damaged, 1 destroyed, and 100 businesses suffered damage. Losses include: $14 million agricultural; $20,000 to private utilities; $70,000 to Indian facilities; $1,850,000 to road systems; $734,000 to water control facilities; $337,000 to public buildings and related equipment; $258,000 to public utilities.	2	17,269
ALASKA		
Flooding on the Kenai River which began June 18 finally ended on August 27 after reaching a stage of 14.64 feet on the 11th at Cooper Landing. A crest of 13.04 feet occurred at Soldotna. Flood stage at both locations is 12 feet. The stage at Soldotna was the highest on record from natural flows, although a higher stage was reached in December 1969 caused by an ice jam. Flooding resulted primarily from the record snowpack in the Kenai Mountains. Several homes were flooded in the Kenai Keys area, roads were damaged and river-front properties eroded.	0	N.A.
On the 22d a dike failure flooded a portion of the old Matanuska town site. The Matanuska River was not excessively high at the time. Several homes experienced minor flooding.	0	N.A.
PUERTO RICO		
A series of storms during the month essentially ended the agricultural drought which had persisted for several months. On the evening of the 29th about 4 inches of rain in 3 hours over the Valenciano River Basin caused flooding in the town of Juncos. Although amounts of 4 to 6 inches had occurred in some areas earlier in the month the soil moisture deficiencies were such as to inhibit flooding.	0	N.A.

FLOOD STAGE DATA

(All dates in August unless otherwise specified)

AUGUST 1977

River and station	Flood stage	Above flood stages —dates From—	To—	Crest Stage	Crest Date
	Ft			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Ellicott Creek:					
[illegible]	8	18	18	8.95	18
UPPER MISSISSIPPI RIVER BASIN					
[illegible]					
Marshalltown, IA	13	16	17	16.34	16
[illegible]					
[illegible], IA [illegible]	[illegible]	16	18	E23.0	17
Oskaloosa, IA	[illegible]	[illegible]	19	16.4	18
[illegible] River:					
[illegible], IA	14	26	26	[illegible]	26
Raccoon River:					
Van Meter, IA	13	28	28	E13.2	28
North River:					
Norwalk, IA	18	26 28	26 30	E20.[illegible] E21.5	26 28
Middle River:					
Indianola, IA	[illegible]	26 27	27 29	E24.0 E24.0	26 28
South River:					
Ackworth, IA	[illegible]	26 27	27 29	E27.5 E25.0	26 28
[illegible]					
Dallas, IA	[illegible]	26 29	27 29	E23.0 U	26 U
Cedar Creek:					
Bussey, IA	16.5	7	9	20.44	8
MISSOURI RIVER BASIN					
South Loup River:					
Ravenna, NE	5	E11	12	6.3	12
Wahoo Creek:					
Wahoo, NE	15	E29	E Sep 2	20.5	31
Nishnabotna River:					
Hamburg, IA (Rural FS)	16	28	29	E24.5	28
Tarkio River:					
Fairfax, MO	17	9 28 31	9 29 Sep 1	17.32 21.00 21.26	9 28 31
Nodaway River:					
Clarinda, IA	14	31	31	E19.0	31
Little Platte River:					
Smithville, MO	24	6	6	24.53	6
Buffalo Creek:					
[illegible]	16	16	16	17.5	16
Republican:					
Clay Center, KS	15	22	23	17.1[illegible]	23
Turkey Creek:					
Wilber, NE	11	11	11	13.4	20
Little Blue River:					
Fairbury, NE	10	11 16	13 17	11.8 1[illegible].7	12 16
Black Vermillion River:					
Frankfort, KS (Highway 9)	[illegible]	28	28	21.83	28
Fancy Creek:					
Winkler, KS	11	23	23	15.0	23
OHIO RIVER BASIN					
Licking:					
Salyersville, KY	18	14	14	18.1	14
OHIO RIVER BASIN-Cont'd					
Little Wabash:					
Clay City 5 SE, IL	16	24	25	16.9	25
Wabash:					
Montezuma, IN	14	12	13	14.8	12
WHITE BASIN					
Cache:					
Patterson, AR	8	19	19	8.03	19
ALASKA					
Kenai:					
Cooper Landing	12	Jun 18	27	14.64	11
Soldotna	12	4	21	13.04	15

RAWINSONDE DATA

Average monthly values

ALBANY, NY 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	86	15.9	15.5	18	1.8
1000	29	154	17.4	14.2	21	1.3
950	31	559	17.3	12.6	25	3.4
900	31	1,050	14.8	10.2	27	6.1
850	31	1,531	12.0	6.3	27	8.9
800	31	2,037	9.4	1.4	27	10.4
750	31	2,571	7.1	-3.3	26	10.0
700	31	3,136	4.0	-7.4	26	14.2
650	31	3,736	.3	-11.9	26	15.8
600	31	4,376	-2.1	-16.2	26	17.2
550	31	5,063	-5.9	-19.3	26	18.9
500	31	5,803	-10.3	-25.1	26	21.1
450	31	6,607	-15.6	-28.7	26	22.3
400	31	7,496	-21.5	-33.9	26	25.3
350	31	8,459	-28.5	-40.0	26	26.2
300	31	9,542	-36.9	-45.0	26	30.2
250	31	10,778	-46.4		26	33.0
200	31	12,230	-55.2		26	35.7
175	31	13,077	-58.0		25	31.5
150	31	14,042	-60.8		26	25.7
125	30	15,176	-62.1		26	20.5
100	30	16,557	-61.5		26	13.7
80	30	17,948	-58.8		26	7.6
70	30	18,791	-56.7		24	3.4
60	30	19,772	-55.2		23	2.0
50	29	20,945	-53.6		12	1.8
40	28	22,384	-51.9		07	5.0
30	28	24,258	-49.5		08	7.9
25	27	25,456	-47.8		08	8.2
20	26	26,935	-45.6		09	9.1
15	23	28,868	-43.2		09	10.8
10	16	31,644	-38.7		09	13.4
7						

ALBUQUERQUE, NM 840 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,619	19.2	12.4	11	1.0
800	31	2,038	19.4	8.3	20	1.5
750	31	2,591	16.1	5.1	26	3.1
700	31	3,174	12.2	2.3	27	4.0
650	31	3,791	7.5	-.4	27	4.2
600	31	4,445	2.7	-3.8	26	4.2
550	31	5,144	-1.9	-9.1	26	5.2
500	31	5,896	-6.7	-14.0	26	5.1
450	31	6,712	-11.3	-20.9	26	5.2
400	31	7,606	-17.1	-28.3	27	6.6
350	31	8,597	-24.0	-35.4	26	7.7
300	31	9,701	-32.4	-43.3	26	9.8
250	31	10,960	-42.4		26	12.2
200	31	12,430	-54.1		26	14.3
175	31	13,275	-60.1		26	14.6
150	31	14,222	-66.2		26	11.9
125	30	15,312	-71.6		27	8.4
100	29	16,628	-70.6		29	2.3
80	29	17,968	-65.8		02	.2
70	29	18,786	-62.5		09	2.2
60	29	19,745	-59.4		09	4.0
50	28	20,891	-57.5		09	6.8
40	28	22,307	-55.2		09	9.4
30	28	24,161	-51.6		09	11.5
25	28	25,349	-49.8		09	12.1
20	27	26,816	-47.7		09	13.8
15	26	28,729	-44.7		09	17.2
10	23	31,467	-40.7		09	19.2
7	9	33,878	-38.3			

AMARILLO, TX 892 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,095	20.4	16.7	18	3.5
850	31	1,515	20.8	13.2	20	8.9
800	31	2,038	18.5	9.9	22	8.5
750	31	2,591	15.8	6.0	24	5.7
700	31	3,173	11.7	4.0	26	4.6
650	31	3,789	7.2	.8	26	3.8
600	31	4,443	2.6	-3.5	26	3.3
550	31	5,141	-2.0	-7.2	27	4.2
500	31	5,894	-6.3	-13.5	28	5.2
450	31	6,711	-11.2	-19.5	29	6.2
400	31	7,606	-16.7	-27.8	29	7.2
350	31	8,599	-23.6	-35.1	28	8.7
300	31	9,703	-32.1	-42.9	28	11.0
250	31	10,964	-42.1		28	11.8
200	31	12,435	-54.1		28	12.8
175	31	13,279	-60.3		28	12.6
150	31	14,226	-66.6		28	12.7
125	30	15,315	-71.3		29	9.4
100	30	16,637	-70.0		29	2.2
80	30	17,975	-65.9		04	.7
70	30	18,792	-62.6		07	2.0
60	30	19,750	-59.9		08	4.2
50	30	20,896	-57.3		09	6.2
40	30	22,314	-55.0		09	8.0
30	28	24,170	-51.2		09	11.5
25	27	25,362	-50.0		09	12.3
20	27	26,827	-47.9		09	13.1
15	25	28,736	-45.3		08	16.1
10	21	31,468	-41.9		09	19.6
7	5	33,878	-38.6			

* ANCHORAGE, AK 1010 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	45	13.7	[illegible]	15	1.4
1000	28	143	14.2	[illegible]	15	1.4
950	31	563	12.8	7.8	16	1.5
900	31	1,016	10.3	5.4	14	2.7
850	31	1,489	7.4	[illegible]	14	4.2
800	31	1,987	5.1	-.8	14	5.0
750	31	2,511	1.9	-3.7	15	5.8
700	31	3,065	-.9	-8.3	15	6.3
650	31	3,654	-3.9	[illegible]	16	6.4
600	31	4,282	-7.2	-15.7	16	6.8
550	31	4,956	-11.2	-19.7	16	7.3
500	31	5,681	-15.7	-25.4	16	7.8
450	31	6,468	-20.9	-30.4	17	7.9
400	31	7,327	-27.3	-37.0	16	8.5
350	31	8,278	-34.5	-41.3	17	8.8
300	31	9,333	-43.1	-45.9	16	9.1
250	31	10,537	-51.9		17	8.4
200	31	11,969	-54.0		18	6.3
175	31	12,833	-51.3		19	4.8
150	31	13,835	-51.4		20	3.7
125	31	15,020	-51.5		20	2.7
100	31	16,469	-51.5		22	2.0
80	31	17,917	-51.5		21	.7
70	31	18,784	-51.3		12	.7
60	31	19,787	-50.9		12	.8
50	31	20,975	-50.7		09	1.3
40	29	22,439	-50.4		08	2.2
30	29	24,321	-49.2		07	2.5
25	27	25,513	-47.7		09	3.3
20	25	27,000	-45.6		08	3.3
15	23	28,934	-42.6		09	3.4
10	18	31,594	-37.6		09	2.7

* ANNETTE, AK 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	37	14.1	[illegible]	[illegible]	[illegible]
1000	[illegible]	145	14.6	10.5	[illegible]	[illegible]
950	31	572	14.7	[illegible]	[illegible]	[illegible]
900	31	1,028	12.9	5.5	[illegible]	[illegible]
850	31	1,506	10.3	[illegible]	[illegible]	1.4
800	31	[illegible]	7.3	[illegible]	[illegible]	1.5
750	31	[illegible]	4.5	-5.7	25	[illegible]
700	31	[illegible]	1.5	-9.3	27	[illegible]
650	31	3,689	-2.0	-13.4	29	[illegible]
600	31	[illegible]	-5.5	-17.3	[illegible]	4.0
550	31	4,999	-9.7	-21.6	29	4.2
500	31	5,728	-14.8	-25.6	30	4.9
450	31	6,517	-20.4	[illegible]	[illegible]	5.2
400	31	[illegible]	-26.8	-37.4	30	[illegible]
350	31	8,329	-34.5	-41.4	30	6.8
300	31	[illegible]	[illegible]	[illegible]	30	[illegible]
250	31	[illegible]	-51.5		[illegible]	[illegible]
200	31	[illegible]	-56.1		[illegible]	[illegible]
175	31	12,871	-55.0		30	9.8
150	31	13,858	-54.6		30	[illegible]
125	31	15,026	-54.6		30	[illegible]
100	31	16,453	[illegible]		31	6.4
80	30	17,881	-54.4		32	4.5
70	30	18,737	-53.7		33	3.2
60	30	19,729	-53.2		[illegible]	2.6
50	30	[illegible]	-52.6		03	[illegible]
40	29	22,349	-51.3		04	2.8
30	29	24,226	-49.2		07	3.3
25	[illegible]	[illegible]	-47.7		09	2.8
20	26	26,902	-45.8		[illegible]	2.5
15	22	28,839	-42.7		08	4.3
10	[illegible]	[illegible]	-37.9		08	6.0
7	14	[illegible]	-34.3		[illegible]	6.3

ATHENS, GA 990 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	246	[illegible]	20.3	10	.3
1000						
950	31	607	21.8	18.5	22	2.2
900	31	1,076	19.7	15.7	23	1.9
850	31	1,567	16.6	13.4	22	2.3
800	31	2,083	13.9	8.9	21	2.8
750	31	2,625	11.1	3.7	21	3.2
700	31	3,198	7.9	-1.2	22	3.2
650	31	3,806	4.4	-5.1	23	3.4
600	31	4,454	.8	-10.5	24	3.6
550	31	5,148	-3.2	-15.3	23	4.0
500	31	5,897	[illegible]	-21.1	24	4.0
450	31	6,710	-12.4	-25.3	25	4.5
400	31	7,600	-18.3	-30.8	27	4.2
350	31	8,587	-25.1	-37.2	29	4.5
300	31	9,685	-33.5	-44.8	30	4.9
250	31	10,937	-43.5		31	5.8
200	31	12,401	-54.7		31	8.0
175	31	13,244	-60.4		32	8.4
150	31	14,193	-65.3		33	7.2
125	31	15,292	-68.7		33	4.7
100	31	16,628	-68.2		32	1.0
80	31	17,977	-64.9		04	2.4
70	31	18,797	[illegible]		07	3.7
60	31	19,756	-59.7		08	5.5
50	31	20,903	-57.1		09	8.2
40	31	22,324	-54.3		07	10.0
30	31	24,134	[illegible]		09	12.2
25	31	25,374	-49.7		09	13.6
20	30	26,842	-47.3		09	14.9
15	29	28,758	-44.8		09	17.3
10	20	31,479	-40.6		09	19.0
7	7	33,904	-38.6			
5						

* BARROW, AK 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	8	5.7	4.1	09	2.5
1000	31	138	7.9	6.1	11	2.9
950	31	564	10.2	4.1	15	2.5
900	31	1,014	9.3	.8	19	2.2
850	31	1,486	7.0	-2.1	[illegible]	2.7
800	31	1,982	4.2	-4.0	22	3.0
750	31	2,505	1.2	-6.7	22	3.3
700	31	3,057	-2.0	-10.3	22	3.5
650	31	3,643	-5.1	-14.4	21	3.8
600	31	4,268	-8.7	-18.9	21	4.4
550	31	4,937	-12.8	-23.0	[illegible]	4.9
500	31	5,657	-17.6	-27.8	23	5.6
450	31	6,438	-23.1	-32.6	23	7.1
400	31	7,290	-29.5	-38.5	23	7.6
350	31	8,232	-36.6	-42.7	24	8.8
300	31	9,279	-44.7		24	6.9
250	31	10,478	-52.2		24	10.1
200	31	11,915	-52.1		24	7.8
175	30	12,783	-50.2		25	6.1
150	30	13,793	-49.3		26	4.8
125	30	14,988	-49.4		26	3.4
100	29	16,447	-49.2		26	1.9
80	28	17,920	-48.7		27	1.0
70	28	18,800	-48.4		32	.3
60	26	19,821	-48.3		07	.5
50	24	21,030	-48.3		06	.6
40	23	22,500	-48.3		07	[illegible]
30	17	24,419	-47.2		07	2.7
25	13	25,628	-46.0		09	2.7

BARTER ISLAND, AK 1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	15	4.3	3.9	08	2.5
1000	31	133	7.0	5.2	10	3.4
950	31	559	11.8	1.8	11	3.5
900	31	1,011	10.7	-1.3	10	1.2
850	31	1,485	8.2	-3.1	29	.5
800	31	1,983	5.2	-5.1	28	2.1
750	31	2,500	2.0	-9.1	28	2.8
700	31	3,061	-1.5	-13.3	28	3.2
650	31	3,648	-4.7	-16.7	29	3.2
600	31	4,273	-8.5	-21.1	29	3.6
550	31	4,943	-12.5	-25.4	30	4.0
500	31	5,664	-17.4	-28.8	30	[illegible]
450	31	6,446	-22.8	-34.3	30	5.6
400	31	7,299	-29.2	-40.1	30	6.7
350	31	8,242	-36.3	-43.7	30	[illegible]
300	31	9,290	-44.3		30	9.3
250	31	10,490	-52.3		30	10.4
200	31	11,924	-53.6		30	9.9
175	31	12,787	-51.3		30	8.0
150	31	13,792	-50.4		30	7.0
125	31	14,983	-50.0		31	5.3
100	31	16,444	-49.7		31	4.0
80	31	17,905	-49.2		33	2.9
70	31	18,783	-48.6		34	2.4
60	30	19,803	-48.6		36	2.4
50	30	21,002	-48.5		02	1.8
40	30	22,470	-48.7		03	2.6
30	[illegible]	24,365	-47.7		06	[illegible]
25	28	25,559	-46.7		07	2.5
20	28	27,046	-44.8		06	2.9
15	26	28,987	-42.3		09	2.9
10	26	31,760	-36.8		08	1.9
7	20	34,187	-33.4		04	2.5
5	10	36,617	-29.2			

BETHEL, AK 1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	39	12.3	10.1	11	1.1
1000	28	104	13.4	10.2	12	2.2
950	31	528	12.6	[illegible]	14	4.5
900	31	980	10.0	3.8	14	4.5
850	31	1,453	7.1	1.1	14	4.8
800	31	1,950	4.2	-2.2	14	4.8
750	31	2,472	1.2	-5.1	14	5.4
700	31	3,025	-2.1	-8.6	13	5.9
650	31	3,610	-5.2	-13.2	12	6.5
600	31	4,235	-8.9	-16.9	12	6.3
550	31	4,904	-13.3	-22.2	13	7.3
500	31	5,623	-18.2	-28.3	13	7.7
450	31	6,401	-23.6	-34.5	13	7.8
400	31	7,252	-29.8	-40.7	13	[illegible]
350	31	8,193	-36.7	-47.5	13	9.8
300	31	9,241	-44.0		13	9.1
250	31	10,449	-49.4		13	8.4
200	31	11,911	-49.9		13	5.0
175	31	12,788	-48.4		14	3.8
150	31	13,802	-49.1		15	3.1
125	31	14,996	-49.9		15	2.5
100	31	16,454	-50.2		15	2.2
80	31	17,910	-50.5		14	1.3
70	31	18,761	-50.4		13	1.4
60	31	19,787	-50.4		11	1.5
50	31	20,977	-50.2		11	2.3
40	30	22,433	-50.1		08	2.1
30	30	24,319	-48.7		08	2.1
25	29	25,528	-46.7		08	2.6
20	26	27,021	-44.7		08	2.9
15	21	28,973	-42.1		10	3.7

* BISMARCK, ND 955 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	[illegible]	7.8	18	.5
1000						
950	28	560	12.5	8.5	22	.4
900	31	1,007	14.2	6.1	26	2.4
850	31	1,486	11.7	[illegible]	28	4.6
800	31	[illegible]	8.6	1.5	[illegible]	7.0
750	31	2,524	5.0	-1.3	29	[illegible]
700	31	3,085	1.9	-6.1	29	[illegible]
650	31	3,680	-1.2	-9.9	29	12.4
600	31	4,314	-4.7	-14.9	29	14.2
550	31	4,993	-8.9	-19.9	29	16.0
500	31	5,726	-13.4	-25.4	29	[illegible]
450	31	6,520	-18.0	-29.9	28	[illegible]
400	31	7,387	-24.9	-34.2	28	[illegible]
350	31	8,347	-32.1	-41.1	[illegible]	26.3
300	30	9,419	-40.3	-48.7	28	29.1
250	30	10,637	-49.6		28	31.9
200	30	12,079	-54.5		28	36.0
175	30	[illegible]	-54.9		28	[illegible]
150	30	13,910	-56.5		28	[illegible]
125	30	[illegible]	-57.3		[illegible]	[illegible]
100	30	16,482	-57.3		29	[illegible]
80	30	[illegible]	-55.7		29	[illegible]
70	30	[illegible]	-54.9		29	[illegible]
60	29	19,780	-53.4		[illegible]	4.2
50	29	[illegible]	-52.3		31	2.3
40	29	22,365	-50.5		[illegible]	[illegible]
30	[illegible]	24,251	-48.1		[illegible]	[illegible]
25	27	25,455	-47.1		08	[illegible]
20	25	26,939	[illegible]		[illegible]	[illegible]
15	24	28,873	-42.9		[illegible]	[illegible]
10	[illegible]	31,650	-38.1		09	9.8
7	16	34,143	-33.5		[illegible]	10.0
5	7	36,570	-28.8			

BOISE, ID 913 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	671	17.7	5.3	14	2.4
1000						
950						
900	30	999	20.9	5.7	15	1.6
850	30	1,493	20.5	3.2	29	1.5
800	30	2,014	17.0	.8	30	2.5
750	30	2,560	12.8	-1.5	29	3.9
700	30	3,134	8.2	-4.0	27	5.2
650	30	3,742	3.6	-6.8	27	6.4
600	30	4,386	-1.2	[illegible]	27	7.5
550	30	5,073	-5.2	-16.5	26	[illegible]
500	30	5,812	-11.3	-20.5	26	[illegible]
450	30	6,612	-16.4	-26.4	26	12.9
400	30	7,488	-22.5	-34.3	26	14.1
350	30	8,457	-29.8	-40.5	26	16.9
300	30	9,534	-38.2	-47.9	26	19.4
250	30	10,765	-47.0		25	[illegible]
200	30	12,221	-53.2		26	27.9
175	30	[illegible]	-55.7		26	26.1
150	30	14,050	-59.1		26	21.7
125	30	15,186	[illegible]		27	15.2
100	30	16,569	[illegible]		27	9.6
80	29	17,949	[illegible]		29	4.6
70	29	18,783	-59.7		30	2.1
60	28	19,754	-57.1		33	.7
50	28	20,915	-54.5		06	1.1
40	28	[illegible]	-52.5		07	3.3
30	28	24,222	-50.2		09	4.1
25	28	25,417	-48.7		08	6.4
20	27	26,892	-45.5		09	7.2
15	25	28,806	-43.8		09	8.5
10	17	31,576	-39.7		09	10.3
7	4	34,071	-34.8			

BOOTHVILLE, LA 1016 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1	25.9	24.0	14	1.3
1000	31	138	26.1	23.4	14	2.3
950	31	590	23.0	20.6	16	3.7
900	31	1,061	20.2	16.7	16	4.4
850	31	1,553	17.3	13.2	16	4.2
800	31	2,070	14.6	10.3	16	4.1
750	31	2,614	11.6	6.8	15	3.7
700	31	3,189	8.5	3.7	15	2.9
650	31	3,800	5.4	-.3	13	[illegible]
600	31	4,451	1.8	-4.2	11	1.7
550	31	5,146	-2.1	-8.0	08	2.2
500	31	5,900	-6.3	-14.1	07	2.9
450	31	6,718	-11.3	-21.8	06	3.3
400	31	7,611	-17.3	-27.5	05	3.3
350	31	8,602	-24.1	-35.6	[illegible]	3.3
300	31	9,705	-32.6	-43.9	03	3.7
250	31	10,962	-42.9		02	4.3
200	31	12,428	-54.9		01	5.6
175	31	13,270	-60.9		02	6.3
150	31	14,215	-66.2		[illegible]	7.2
125	30	15,309	-70.5		04	7.3
100	30	16,632	-70.3		07	5.5
80	30	17,972	[illegible]		[illegible]	[illegible]
70	30	18,787	-63.7		[illegible]	8.3
60	30	19,739	-61.4		08	10.3
50	30	20,879	-57.8		[illegible]	11.4
40	30	22,295	-55.4		09	13.6
30	30	24,142	-52.4		09	17.2
25	30	25,328	-50.3		09	18.2
20	29	26,795	-47.8		09	[illegible]
15	26	28,712	-44.3		08	21.9
10	22	31,461	-39.9		09	26.3
7	6	33,950	-36.8			

* BROWNSVILLE, TX 1012 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	7	25.2	23.4	16	2.2
1000	31	116	26.5	25.1	17	4.6
950	31	569	23.7	21.9	17	9.3
900	31	1,041	21.2	17.3	17	9.5
850	31	1,536	18.6	13.2	17	7.1
800	31	2,055	16.1	9.2	15	5.3
750	31	2,602	13.2	4.6	13	3.9
700	31	3,179	10.0	.8	11	3.2
650	31	3,792	6.5	-2.9	10	3.6
600	31	4,445	2.7	-6.6	10	3.5
550	31	5,144	-1.4	-12.9	09	3.9
500	31	5,898	-5.9	-17.9	08	4.4
450	31	6,716	-10.7	-25.0	07	5.0
400	31	7,612	-16.8	-30.5	07	5.4
350	31	8,604	-23.8	-37.1	07	5.3
300	31	9,707	-32.3	-45.2	07	5.8
250	31	10,966	-42.6		07	6.0
200	31	12,433	-54.7		07	6.7
175	31	13,275	-61.3		06	6.7
150	31	14,216	-67.8		06	7.1
125	31	15,300	-72.4		07	8.6
100	30	16,603	-72.6		07	9.3
80	30	[illegible]	-67.7		09	[illegible]
70	30	18,743	-65.1		09	11.8
60	30	19,688	-62.6		09	12.8
50	30	20,821	-59.8		09	[illegible]
40	30	22,224	-57.2		08	16.7
30	[illegible]	24,058	-53.4		09	20.5
25	[illegible]	25,238	-50.9		09	20.5
20	29	26,698	-48.1		09	21.5
15	28	28,614	-43.7		08	24.0
10	24	31,359	-40.5		09	28.0
7	8	33,815	-36.9			

BUFFALO, NY 99[illegible] MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	218	16.8	14.5	21	2.5
1000						
950	31	581	17.2	13.0	25	6.7
900	31	1,041	14.5	10.4	26	8.5
850	31	1,523	11.7	6.5	26	[illegible]
800	31	2,028	9.1	2.8	26	11.5
750	31	2,561	6.8	-2.1	26	12.7
700	31	3,126	4.0	-7.6	26	13.3
650	31	3,726	1.3	-10.9	27	14.8
600	31	4,367	-2.1	-14.7	27	16.0
550	31	5,053	-6.0	-19.2	26	17.1
500	31	5,793	-10.5	-23.1	26	[illegible]
450	30	6,603	-15.4	-28.8	26	19.3
400	30	7,482	-21.9	-34.5	26	20.2
350	30	8,454	-29.0	-40.7	26	21.7
300	29	9,535	-37.4	-46.1	26	23.7
250	29	10,769	-46.7		26	27.8
200	28	12,218	-54.8		27	29.3
175	28	13,068	-57.1		27	29.0
150	28	14,038	-59.2		27	24.2
125	27	15,170	-61.1		27	22.3
100	27	16,556	-60.4		27	19.5
80	26	17,954	-58.3		26	10.3
70	25	18,797	-56.5		26	6.2
60	24	19,781	-54.3		25	2.3
50	24	20,953	-52.9		11	.7
40	24	22,398	-51.3		10	3.6
30	22	24,275	-49.3		09	6.1
25	22	25,475	-47.7		09	7.6
20	22	26,957	[illegible]		09	8.0
15	17	28,892	-42.9		08	9.6
10	6	31,620	[illegible]			

CAPE HATTERAS, NC 1014 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	4	24.3	22.2	25	[illegible]
1000	31	174	24.6	[illegible]	25	3.4
950	31	623	22.1	17.7	25	4.8
900	31	1,092	19.3	14.3	26	4.4
850	31	[illegible]	16.1	11.6	26	4.4
800	31	2,096	13.4	7.2	25	4.9
750	31	[illegible]	10.9	1.5	25	[illegible]
700	31	3,210	7.9	-4.5	25	[illegible]
650	31	3,818	4.6	-8.6	25	[illegible]
600	31	[illegible]	1.0	-12.6	24	[illegible]
550	31	5,161	-3.0	-17.7	[illegible]	7.0
500	31	5,910	-7.3	-21.9	[illegible]	6.9
450	31	6,724	-12.4	-26.2	24	6.7
400	31	7,613	-18.4	-32.1	24	6.2
350	31	8,599	-25.5	[illegible]	[illegible]	6.3
300	31	[illegible]	[illegible]	[illegible]	[illegible]	5.8
250	31	10,944	-44.0		25	4.5
200	31	[illegible]	-55.4		[illegible]	5.6
175	31	[illegible]	-60.5		27	4.9
150	31	14,195	-64.6		[illegible]	4.4
125	31	15,300	-67.7		27	3.4
100	31	16,643	-67.3		[illegible]	[illegible]
80	31	17,999	[illegible]		[illegible]	.5
70	31	18,821	-61.8		[illegible]	2.5
60	30	[illegible]	-59.3		[illegible]	[illegible]
50	30	[illegible]	-57.0		[illegible]	[illegible]
40	30	[illegible]	-54.2		[illegible]	[illegible]
30	30	[illegible]	-51.1		[illegible]	12.4
25	[illegible]	[illegible]	-49.5		09	13.6
20	[illegible]	[illegible]	-46.9		09	15.2
15	25	28,793	-44.4		09	16.2
10	[illegible]	[illegible]	[illegible]		09	18.5
7	[illegible]	[illegible]	-37.6			

RAWINSONDE DATA

Average monthly values

AUGUST 1977

*** CARIBOU, ME — [illegible] MB**

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	191	[illegible]	11.5	24	1.5
1000						
950	31	564	14.2	9.5	26	4.1
900	31	1,016	[illegible]	6.6	27	5.0
850	31	[illegible]	6.8	3.7	27	6.0
800	31	[illegible]	5.5	-.1	27	8.1
750	31	2,521	4.2	[illegible]	27	9.7
700	31	3,080	[illegible]	[illegible]	27	[illegible]
650	31	3,675	-1.4	-11.8	27	14.0
600	31	[illegible]	-4.3	[illegible]	26	16.6
550	31	[illegible]	-8.5	-22.6	26	[illegible]
500	31	[illegible]	[illegible]	-28.7	26	[illegible]
450	31	6,518	-18.3	-32.6	26	[illegible]
400	31	[illegible]	[illegible]	-37.5	26	25.5
350	31	8,347	[illegible]	-43.5	26	[illegible]
300	31	9,416	-39.7	-48.6	26	29.2
250	30	10,642	-48.4		26	[illegible]
200	30	12,090	[illegible]		27	[illegible]
175	30	12,946	[illegible]		26	31.2
150	30	13,928	-56.3		26	28.2
125	30	[illegible]	-56.9		26	23.9
100	30	16,498	-56.4		26	15.0
80	30	[illegible]	-54.7		26	8.1
70	30	18,778	-53.2		26	5.8
60	30	19,774	[illegible]		25	3.3
50	30	20,956	-51.6		12	.6
40	30	22,409	-50.4		11	3.0
30	30	24,296	-48.0		09	4.8
25	30	[illegible]	-46.5		08	6.5
20	27	26,988	-44.3		09	7.3
15	25	28,924	-41.7		09	[illegible]
10	11	31,700	[illegible]			
7						

CENTREVILLE, AL — 1001 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	[illegible]	21.9	21.5	[illegible]	1.1
1000	30	166	22.4	21.2	11	1.4
950	31	[illegible]	22.6	19.3	17	2.8
900	31	1,071	[illegible]	[illegible]	17	[illegible]
850	31	[illegible]	17.1	[illegible]	17	3.4
800	31	2,079	14.3	8.2	16	3.6
750	31	2,622	11.4	3.4	16	3.2
700	31	3,196	6.2	-.3	16	2.8
650	31	[illegible]	4.8	-5.2	17	2.1
600	31	4,453	1.2	-9.9	18	1.8
550	31	5,149	-2.5	-15.1	19	.9
500	31	5,899	-6.9	-19.9	27	1.2
450	31	6,714	-11.9	-26.1	28	1.8
400	31	7,605	-17.6	-32.7	30	2.6
350	31	8,594	-24.6	-39.2	[illegible]	3.4
300	31	9,694	-33.2	-47.0	32	5.0
250	31	10,950	-43.1		32	5.7
200	31	12,415	-54.7		31	7.2
175	31	13,259	-60.0		33	9.2
150	31	14,210	-65.0		34	7.6
125	31	15,307	-69.8		36	5.7
100	31	16,638	-69.0		35	1.2
80	31	17,980	-65.9		05	3.0
70	31	18,798	-62.9		07	5.0
60	31	19,754	-59.8		06	7.4
50	31	20,901	-57.3		09	8.6
40	31	22,322	-54.5		09	10.5
30	30	24,178	-51.5		09	12.9
25	28	25,360	-50.0		08	14.3
20	27	26,828	-47.9		08	16.4
15	25	28,739	-45.0		06	17.4
10	25	31,477	-40.3		09	20.3
7	5	33,933	-37.8			

CHARLESTON, SC — 1018 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	13	23.4	22.1	04	.3
1000	31	169	24.6	22.7	19	1.2
950	31	619	22.4	19.1	21	3.0
900	31	1,090	20.0	14.9	20	2.4
850	31	1,581	17.1	10.8	20	1.9
800	31	2,097	14.3	6.6	19	2.0
750	31	2,640	11.4	2.2	20	2.6
700	31	3,213	8.1	-2.7	22	2.7
650	31	3,822	4.7	-6.4	22	3.0
600	31	4,470	1.4	-10.4	21	3.3
550	31	5,166	-2.6	-16.4	21	3.1
500	31	5,916	-7.2	-21.9	22	2.6
450	31	6,730	-12.0	-25.6	21	2.7
400	31	7,621	-18.3	-30.1	22	1.9
350	31	8,607	-25.3	-38.2	25	1.7
300	31	9,704	-33.9	-45.8	30	.8
250	31	10,956	-43.8		34	2.4
200	31	12,418	-54.9		36	4.6
175	31	13,261	-60.3		35	5.6
150	31	14,210	-65.3		35	4.7
125	30	15,309	-68.8		01	3.9
100	30	16,646	-68.1		09	1.0
80	30	17,996	-64.4		06	3.2
70	30	18,819	-61.9		08	4.8
60	30	19,778	-59.6		08	7.3
50	30	20,927	-56.7		09	9.4
40	30	22,352	-53.9		09	11.[illegible]
30	28	24,211	-50.5		09	13.9
25	27	25,403	-49.3		09	14.1
20	26	26,875	-46.4		09	15.1
15	22	28,792	-43.8		09	18.6
10	12	31,539	-38.0			
7						

CHATHAM, MA — 1016 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	16	19.[illegible]	17.7	25	1.7
1000	31	153	19.7	16.8	26	3.1
950	31	596	19.1	12.8	27	5.1
900	31	1,060	16.6	9.3	27	6.1
850	31	1,544	13.4	6.7	27	7.7
800	31	2,053	11.1	1.2	27	9.4
750	31	2,591	9.1	-4.4	27	11.3
700	31	3,159	6.2	-8.8	27	12.4
650	31	3,764	3.4	-10.8	26	13.8
600	31	4,409	-.3	-14.2	26	15.2
550	31	5,100	-4.4	-18.4	26	16.4
500	31	5,844	-8.9	-22.2	26	17.7
450	31	6,653	-13.6	-27.3	25	18.5
400	31	7,539	-19.[illegible]	-32.5	25	20.7
350	31	8,520	-26.8	-39.2	25	22.1
300	31	9,610	-35.4	-46.3	25	23.2
250	31	10,854	-45.2		25	23.8
200	31	12,309	-55.3		26	24.0
175	31	13,153	-59.8		26	23.2
150	31	14,108	-63.1		26	20.0
125	31	15,227	-63.9		25	16.5
100	30	16,596	-62.4		26	11.9
80	29	17,982	-59.4		25	6.3
70	29	18,823	-57.3		24	4.5
60	29	19,801	-55.8		23	1.9
50	29	20,967	-54.[illegible]		13	1.5
40	28	22,404	-52.3		10	3.3
30	25	24,269	-49.[illegible]		09	6.1
25	22	25,468	-47.9		09	6.6
20	21	26,944	-46.0		09	7.9
15	18	28,871	-43.7		09	8.7
10	7	31,616	-39.3			
7						

CHIHUAHUA, MEXICO — 859 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,428	20.0	14.8	33	.5
1000						
950						
900						
850	31	1,515	20.3	12.4	33	.6
800	31	2,040	19.2	9.9	08	.3
750	31	2,592	15.6	7.3	14	2.6
700	31	3,174	11.5	5.0	13	2.9
650	31	3,790	7.0	1.5	11	3.4
600	31	4,443	2.3	-3.1	10	4.3
550	31	5,141	-2.1	-9.1	09	5.0
500	31	5,893	-6.3	-16.7	11	5.0
450	31	6,710	-11.0	-22.7	11	3.9
400	31	7,605	-16.9	-29.5	10	4.3
350	31	8,598	-23.6	-35.9	09	3.7
300	31	9,703	-31.9	-43.4	08	4.6
250	31	10,963	-42.2		06	4.7
200	29	12,432	-53.9		06	5.8
175	29	13,278	-60.2		06	6.3
150	29	14,224	-66.9		07	6.4
125	29	15,308	-72.8		08	5.3
100	27	16,615	-72.3		09	5.4
80	25	17,941	-68.2		08	5.6
70	24	18,750	-65.4		09	7.6
60	24	19,694	-62.9		09	10.0
50	24	20,826	-59.7		09	12.2
40	24	22,231	-56.8		09	14.6
30	23	24,066	-53.4		09	16.6
25	22	25,245	-51.9		09	16.9
20	21	26,701	-49.6		08	18.9
15	17	28,593	-46.9		08	20.9
10	6	31,312	-42.4			
7						

*** COLD BAY, AK — 1005 MB**

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	27	30	11.0	8.9	16	1.9
1000	27	[illegible]	10.9	8.8	15	3.0
950	27	[illegible]	8.3	6.3	13	4.4
900	27	943	6.1	4.0	13	4.9
850	27	1,411	4.0	.3	12	5.0
800	27	1,903	2.2	-3.2	12	[illegible]
750	27	2,422	-.4	-6.9	12	4.7
700	27	2,971	-3.3	-11.5	12	[illegible]
650	27	3,554	-6.6	-15.7	13	5.7
600	27	4,175	-10.4	-21.4	13	5.7
550	27	4,840	-14.2	-27.2	13	5.4
500	27	5,557	-19.0	-31.7	12	6.4
450	27	6,333	-24.3	-36.6	12	7.0
400	[illegible]	[illegible]	-30.9	-40.1	11	[illegible]
350	[illegible]	[illegible]	-37.9	-46.1	11	6.3
300	[illegible]	[illegible]	-44.7		11	6.9
250	[illegible]	[illegible]	-43.0		13	6.5
200	[illegible]	11,850	-47.0		15	3.7
175	[illegible]	12,746	-47.3		16	3.5
150	[illegible]	13,764	-48.5		18	2.1
125	[illegible]	14,958	-49.7		19	1.9
100	[illegible]	16,407	[illegible]		18	2.4
80	21	17,860	[illegible]		16	3.1
70	21	[illegible]	[illegible]		19	1.8
60	[illegible]	19,729	-51.4		15	2.2
50	19	20,914	-51.6		12	1.5
40	19	22,364	-50.8		10	2.3
30	16	24,229	-49.9		08	2.2
25	[illegible]	25,427	-47.9		11	1.5
20	14	26,909	-46.0		09	1.9
15	14	[illegible]	-43.1		07	2.4
10	[illegible]	31,567	-38.6			
7						

DAYTON, OH — 983 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	299	18.7	16.6	22	.9
1000						
950	31	589	19.6	15.8	24	4.5
900	31	1,055	17.2	13.2	26	7.0
850	31	1,541	14.6	9.6	26	8.7
800	31	2,053	12.0	4.7	26	9.0
750	31	2,591	9.5	-1.3	26	9.5
700	31	3,161	5.3	-4.5	27	9.8
650	31	3,765	3.0	-8.6	27	10.5
600	31	4,409	-.9	-13.8	26	11.9
550	31	5,099	-4.6	-19.1	26	12.5
500	31	5,844	-8.9	-22.4	27	14.1
450	31	6,651	-14.1	-27.0	27	15.[illegible]
400	31	[illegible]	-20.2	-34.2	27	16.5
350	31	8,514	-27.1	-39.0	27	17.9
300	31	[illegible]	-35.4	-46.2	27	19.3
250	31	10,847	-45.2		28	22.0
200	30	12,310	-54.6		28	24.4
175	29	13,155	-59.1		28	24.1
150	29	14,112	-62.8		28	20.8
125	27	15,230	-65.[illegible]		28	15.6
100	26	16,592	-63.8		[illegible]	10.9
80	24	17,968	-61.4		27	5.3
70	24	18,801	-58.9		28	2.7
60	24	19,775	-56.6		19	.3
50	23	20,937	-54.6		09	2.2
40	21	22,371	-52.9		10	5.1
30	20	24,243	-50.1		09	7.3
25	19	25,440	-48.5		09	7.9
20	19	26,916	-46.5		09	10.0
15	18	28,840	-43.6		09	12.4
10	11	31,612	-39.9		09	13.2
7						

DEL RIO, TX — 977 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	314	25.8	20.2	10	4.2
1000						
950	31	559	24.5	19.9	14	7.2
900	31	1,033	22.1	17.6	17	9.6
850	31	1,530	20.3	14.5	16	8.6
800	31	2,051	17.0	11.4	16	6.6
750	31	2,600	13.8	7.5	14	4.8
700	31	3,179	11.0	1.2	11	3.9
650	31	3,794	7.4	-3.4	09	3.8
600	31	4,449	3.4	-8.4	08	3.8
550	31	5,150	-1.1	-13.0	07	2.8
500	31	5,903	-6.1	-18.4	08	2.7
450	31	6,720	-10.9	-24.7	08	3.1
400	31	7,616	-16.6	-30.7	08	3.8
350	31	8,609	-23.6	-36.3	06	3.6
300	31	9,714	-32.0	-45.4	05	4.3
250	31	10,976	-42.3		05	4.9
200	31	12,447	-54.2		05	6.7
175	30	13,288	-60.6		06	7.0
150	30	14,232	-67.0		06	[illegible].8
125	30	15,319	-72.2		07	5.4
100	30	16,626	-72.2		08	6.0
80	30	17,952	-67.6		08	6.6
70	30	18,762	-64.5		08	7.4
60	30	19,710	-62.3		09	[illegible].1
50	29	20,843	-59.5		09	10.7
40	28	22,247	-57.3		09	13.7
30	28	24,082	-53.5		09	16.5
25	28	25,261	-51.3		09	18.1
20	26	26,724	-48.5		09	18.8
15	26	28,629	-46.0		08	20.9
10	21	31,341	-42.0		09	24.8
7	15	33,784	-37.7			

DENVER, CO — 839 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,611	15.8	9.8	21	1.3
1000						
950						
900						
850						
800	31	2,022	17.3	6.3	26	2.1
750	31	2,571	15.1	2.7	29	2.1
700	31	3,152	11.5	-.5	28	3.1
650	31	3,767	7.1	-3.1	27	4.5
600	31	4,420	2.1	-6.6	28	6.8
550	31	5,116	-3.2	-10.3	28	8.3
500	31	5,863	-8.7	-16.1	28	10.5
450	31	6,674	-13.1	-24.6	27	12.0
400	31	7,561	-19.3	-31.3	27	14.9
350	31	8,543	-26.3	-38.3	27	18.2
300	31	9,636	-34.7	-45.0	27	20.3
250	31	10,885	-44.0		27	23.7
200	31	12,348	-54.3		27	26.2
175	31	13,194	-59.1		27	26.0
150	31	14,150	-63.8		27	23.1
125	31	15,258	-67.[illegible]		28	17.3
100	31	16,604	-66.9		27	8.2
80	31	17,960	-64.0		29	3.6
70	31	18,785	-61.3		29	1.9
60	31	19,751	-57.9		05	1.4
50	31	20,908	-55.2		07	2.2
40	31	22,338	-53.6		09	4.9
30	30	24,203	-50.5		09	6.9
25	30	25,396	-49.1		08	8.0
20	30	26,868	-46.7		09	9.4
15	28	28,786	-44.0		09	11.7
10	22	31,532	-40.4		09	14.8
7	7	33,976	-36.9			

DODGE CITY, KS — 924 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	791	20.1	16.7	16	2.4
1000						
950						
900	30	1,023	20.7	15.7	19	5.6
850	30	1,518	20.5	12.3	22	10.0
800	30	2,041	18.1	8.5	23	8.4
750	30	2,591	14.7	5.4	24	6.9
700	30	3,170	10.7	1.2	26	5.9
650	30	3,784	6.3	-1.8	26	5.3
600	30	4,436	1.5	-5.6	26	5.5
550	30	5,131	-3.0	-10.1	27	6.3
500	30	5,880	-7.5	-16.8	27	8.1
450	29	6,694	-12.4	-23.8	27	9.9
400	29	7,585	-17.8	-30.2	27	12.0
350	29	8,574	-24.7	-37.6	27	14.4
300	29	[illegible],675	-32.9	-45.[illegible]	27	16.6
250	29	10,930	-43.1		28	18.3
200	29	12,397	-54.3		27	20.7
175	29	13,242	-59.9		27	20.2
150	29	14,192	-65.3		28	19.6
125	29	15,292	-68.6		29	15.0
100	29	16,626	-68.4		28	7.1
80	29	17,975	-65.0		29	3.0
70	29	[illegible]	-60.8		34	.9
60	28	19,760	-58.7		08	1.9
50	28	20,913	-56.6		08	3.5
40	27	22,336	-54.0		09	6.1
30	26	24,198	-50.8		09	8.7
25	25	25,391	-49.3		09	9.5
20	23	26,858	-47.6		09	10.8
15	22	28,772	-45.0		09	12.8
10	19	31,501	-41.7		09	16.0
7	8	33,958	-37.9			

EL PASO, TX — 882 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	[illegible]	1,193	23.3	[illegible]	07	.5
1000						
950						
900						
850	[illegible]	1,513	23.3	11.2	13	.5
800	30	2,040	20.4	[illegible]	18	1.4
750	30	2,595	[illegible]	5.8	21	1.9
700	30	3,178	12.3	3.4	19	1.8
650	[illegible]	3,795	[illegible]	.3	18	1.7
600	[illegible]	4,450	[illegible]	-3.5	16	1.3
550	30	5,148	-1.8	-6.4	13	1.5
500	30	5,901	[illegible]	-15.6	11	[illegible]
450	30	6,717	-11.4	-22.6	11	.5
400	[illegible]	7,611	-17.1	-29.2	16	.4
350	30	[illegible]	-23.9	-36.7	18	.9
300	30	9,706	[illegible]	-43.6	21	.7
250	29	10,967	-42.4		24	1.3
200	[illegible]	12,436	-54.4		25	1.8
175	[illegible]	13,279	[illegible]		25	1.6
150	[illegible]	[illegible]	[illegible]		25	2.1
125	29	15,308	-72.7		30	1.8
100	[illegible]	16,617	-72.1		12	1.2
80	[illegible]	17,947	-66.3		08	3.2
70	[illegible]	18,763	[illegible]		[illegible]	5.1
60	25	19,714	-61.1		09	6.7
50	[illegible]	20,854	-58.3		09	9.4
40	[illegible]	22,266	[illegible]		09	11.7
30	24	[illegible]	[illegible]		09	13.6
25	[illegible]	25,297	-50.5		09	14.3
20	[illegible]	26,762	-47.7		09	17.4
15	21	[illegible]	-44.7		08	19.7
10	[illegible]	31,416	-39.5		09	[illegible]
7	[illegible]	[illegible]	-36.9			

ELY, NV — 812 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,908	11.3	2.9	20	2.9
1000						
950						
900						
850						
800	31	2,029	16.2	4.8	19	2.7
750	31	2,578	15.0	1.4	[illegible]	1.8
700	31	3,158	10.9	-1.4	25	3.3
650	31	3,773	6.7	-4.5	25	4.7
600	31	4,424	1.7	-7.9	24	5.6
550	31	5,119	-3.6	[illegible]	25	6.5
500	31	5,866	-8.3	-18.4	25	8.5
450	31	6,677	-13.2	-25.3	25	10.5
400	31	7,563	-19.7	[illegible]	25	11.7
350	31	8,543	-26.8	-36.6	25	14.6
300	30	9,634	-35.2	-45.3	25	16.7
250	29	10,883	-44.4		25	20.0
200	29	12,345	-54.3		25	21.5
175	29	13,192	-58.9		25	20.6
150	29	14,148	-63.6		25	18.0
125	29	15,257	-66.9		27	12.2
100	28	16,603	-66.7		26	3.7
80	28	17,959	-64.0		29	.6
70	28	18,784	-61.3		01	.6
60	28	19,747	-58.4		05	1.[illegible]
50	28	20,902	-55.6		07	3.8
40	27	22,332	-53.7		08	5.9
30	25	24,191	-50.7		09	[illegible].7
25	25	25,382	-49.2		08	8.7
20	24	26,857	-47.1		09	10.[illegible]
15	19	28,779	-44.2		09	11.4
10	13	31,526	-40.1			
7						

EMPALME, MEXICO — 1009 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	12	27.8	23.7	09	1.0
1000	30	87	28.2	23.4	12	1.3
950	30	543	26.3	19.3	13	2.5
900	30	1,020	24.4	16.1	15	2.7
850	30	1,519	21.6	13.5	14	2.0
800	30	2,044	18.7	10.0	11	2.1
750	30	2,596	15.7	5.8	09	2.6
700	30	3,178	12.0	2.6	10	2.7
650	30	3,795	7.8	-.8	13	3.1
600	30	4,450	3.2	-3.9	13	3.8
550	30	5,151	-1.1	-8.5	13	3.[illegible]
500	30	5,905	-5.7	-14.4	11	3.6
450	30	6,724	-10.4	-20.5	11	3.6
400	30	7,621	-16.1	-26.8	11	4.5
350	29	8,618	-22.9	-34.7	11	4.8
300	29	9,727	-31.1	-43.7	12	5.[illegible]
250	29	10,993	-41.2	-51.6	12	6.0
200	29	12,469	-53.4		13	6.7
175	29	13,315	-59.8		13	5.7
150	29	14,264	-66.1		13	5.0
125	28	15,353	-71.8		12	3.4
100	26	16,664	-71.4		09	4.8
80	23	17,998	-67.1		08	7.6
70	23	18,811	-64.2		09	10.2
60	21	19,762	-61.9		09	11.6
50	21	20,897	-59.0		09	12.5
40	20	22,304	-56.4		09	15.6
30	20	24,142	-54.0		09	17.5
25	19	25,318	-51.5		09	18.2
20	19	26,779	-48.5		09	20.3
15	17	28,673	-46.4		09	22.4
10	6	31,427	-40.0			
7						

*** FAIRBANKS, AK — 997 MB**

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	135	14.4	9.2	36	1.2
1000	11	164	14.8	10.7	02	.7
950	30	545	16.1	7.2	06	.4
900	30	1,003	13.4	4.9	20	.3
850	30	1,481	9.8	2.9	23	.7
800	30	1,982	6.5	.2	20	1.1
750	30	2,509	2.9	-3.5	21	1.6
700	30	3,064	-.4	-7.5	20	1.8
650	30	3,654	-3.6	-12.4	19	2.8
600	30	4,283	-6.9	-16.7	20	2.4
550	30	4,957	-10.9	-20.5	21	2.4
500	30	5,684	-15.6	-24.8	22	2.6
450	30	6,471	-20.8	-30.0	23	3.1
400	30	7,331	-27.1	-36.5	24	3.1
350	30	8,281	-34.5	-41.1	24	3.5
300	29	9,340	-43.2	-46.2	24	5.0
250	29	10,542	-52.7		25	5.9
200	29	11,967	-55.2		24	5.9
175	27	12,816	-52.1		24	4.3
150	27	13,816	-51.3		23	3.5
125	25	15,005	-51.5		24	2.3
100	25	16,457	-50.7		28	1.4
80	23	17,906	-50.2		30	.7
70	23	18,779	-49.9		36	.6
60	22	19,781	-49.8		05	1.2
50	22	20,975	-49.4		07	1.4
40	21	22,434	-49.3		06	2.2
30	20	24,319	-48.[illegible]		07	2.4
25	16	25,536	-47.1		07	2.7
20	13	27,004	-44.9		08	3.2
15	9	28,931	-42.3			
10						
7						

FLINT, MI — 988 MB

	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	236	16.0	14.2	21	1.4
1000						
950	31	574	16.6	12.1	25	4.6
900	31	1,034	14.2	9.3	27	6.6
850	31	1,514	11.[illegible]	5.6	27	[illegible]
800	31	2,020	9.5	-.[illegible]	27	9.9
750	31	2,554	7.5	-3.5	27	11.7
700	31	3,119	4.4	-6.6	27	13.5
650	31	3,719	1.0	-9.5	27	14.8
600	31	4,359	-2.5	-14.3	27	15.8
550	31	5,045	-6.3	-18.4	27	15.9
500	31	5,784	-10.9	-23.6	27	17.4
450	31	6,585	-16.2	-28.[illegible]	27	19.0
400	31	7,461	-22.5	-34.2	27	20.4
350	31	8,431	-29.6	-41.4	27	21.4
300	31	9,509	-37.8	-46.4	27	24.9
250	31	10,742	-46.7		27	27.7
200	31	12,199	-53.6		27	32.1
175	31	13,051	-56.5		27	31.2
150	31	14,023	-59.1		28	26.7
125	31	15,163	-60.7		27	19.7
100	31	16,550	-60.6		27	14.0
80	31	17,947	-58.0		27	8.9
70	31	18,792	-56.4		27	5.3
60	31	19,776	-54.4		26	2.3
50	30	20,951	-52.3		14	.6
40	29	22,398	-51.0		09	2.8
30	27	24,284	-48.7		09	5.9
25	26	25,487	-47.3		09	6.4
20	25	26,972	-45.2		09	8.2
15	25	28,904	-42.6		08	9.7
10	15	31,649	-39.0		09	10.2
7						

RAWINSONDE DATA

Average monthly values

GLASGOW, MT 924 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	696	11.2	5.7	01	.9
1000						
950						
900	31	1,011	14.8	4.3	31	1.1
850	31	1,492	[illegible]	2.0	29	4.1
800	31	1,998	8.7	.5	[illegible]	5.7
750	31	2,528	4.8	-2.2	30	7.6
700	31	3,088	1.5	-6.9	30	8.9
650	31	3,682	-1.4	-10.6	30	10.4
600	31	4,315	-5.4	-12.9	30	12.4
550	31	4,993	-9.5	-18.9	29	14.2
500	31	5,723	-14.0	-23.6	29	16.0
450	31	6,515	-19.4	-28.4	29	18.1
400	31	7,380	-25.7	-35.9	29	20.6
350	31	8,337	-33.0	-43.1	28	23.0
300	31	9,399	-41.5	-49.6	28	25.6
250	31	10,613	-50.1		28	29.7
200	31	12,051	-54.6		28	31.6
175	31	12,907	-54.4		28	30.0
150	31	13,895	-54.7		28	25.3
125	31	15,058	-55.7		29	21.1
100	31	16,477	-56.4		29	14.2
80	31	17,895	-55.7		30	9.1
70	31	18,749	-54.3		30	6.0
60	31	19,740	-53.5		30	3.4
50	31	20,916	-52.3		33	2.0
40	31	22,366	-50.4		04	.8
30	29	24,255	-48.5		07	3.3
25	29	25,457	-47.3		09	4.2
20	27	26,943	-45.1		09	5.3
15	26	28,872	-43.3		09	6.0
10	21	31,608	-39.0		09	6.2
7	11	34,040	-36.5			

GRAND JUNCTION, CO 853 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	1,472	19.7	6.0	13	[illegible]
850	28	1,502	[illegible]	5.9	13	2.6
800	31	2,021	19.8	4.6	15	2.3
750	31	2,574	16.5	2.3	14	2.2
700	31	3,157	12.0	-.1	26	4.4
650	31	3,773	7.2	-2.9	26	5.7
600	31	4,426	2.3	-6.2	26	7.7
550	31	5,123	-3.1	-9.7	26	8.6
500	31	5,871	-8.2	-16.9	26	9.3
450	31	6,682	-13.1	-24.5	27	11.9
400	31	7,569	-19.0	-31.3	27	12.9
350	31	8,554	-25.5	-37.0	27	14.3
300	31	9,651	-33.8	-44.1	26	17.7
250	31	10,903	-43.4		26	20.8
200	31	12,370	-54.0		26	21.9
175	30	13,215	-59.1		26	23.0
150	30	14,171	-63.7		27	20.1
125	30	15,279	-67.3		27	15.4
100	30	16,624	-67.3		27	7.5
80	29	17,978	-64.1		28	2.9
70	28	18,801	-60.9		28	1.0
60	28	19,767	-57.9		05	.5
50	28	20,925	-55.2		08	2.6
40	27	22,356	-53.3		08	5.5
30	26	24,220	-50.4		09	[illegible]
25	25	25,412	-49.2		09	6.5
20	24	26,884	-47.0		09	9.8
15	22	28,799	-44.4		08	11.0
10	16	31,538	-40.2		09	13.5

*** GREAT FALLS, MT 889 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	1,118	12.0	7.0	23	1.6
850	31	1,498	13.7	3.5	25	2.0
800	31	2,006	10.7	1.0	28	2.4
750	31	2,541	7.1	-1.5	29	4.4
700	31	3,105	3.2	-3.9	29	7.0
650	31	3,703	-.2	-8.0	28	9.8
600	31	4,339	-4.5	-13.5	28	11.2
550	31	5,019	-8.7	-20.4	28	13.2
500	31	5,751	-13.2	-26.1	28	13.7
450	30	6,545	-18.9	-32.1	28	15.0
400	29	7,408	-25.4	-37.5	28	16.5
350	[illegible]	8,365	-32.7	-42.7	28	18.7
300	[illegible]	9,429	-41.1	-49.5	28	21.3
250	26	10,643	-50.1		28	24.0
200	26	12,084	-54.0		28	25.7
175	26	12,940	-54.6		27	26.9
150	26	13,926	-55.4		28	24.7
125	25	15,085	-56.7		28	19.1
100	25	16,497	-57.6		28	13.1
80	24	17,907	-56.6		29	8.5
70	24	18,757	-55.4		30	5.5
60	22	19,750	-54.1		32	2.9
50	22	20,924	-53.0		02	2.0
40	22	22,370	-50.8		07	1.4
30	22	24,253	-48.5		07	3.9
25	22	25,456	-47.2		09	5.5
20	21	26,946	-45.2		08	6.0
15	20	28,875	-42.4		09	7.0
10	14	31,664	-37.7		08	7.6
7	6	34,175	-34.3			

GREEN BAY, WI 990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	210	[illegible]	11.9	24	[illegible]
1000						
950	31	557	16.3	[illegible]	25	4.7
900	[illegible]	1,016	13.8	8.0	26	6.3
850	31	1,496	10.5	5.2	27	7.3
800	31	1,999	7.7	.8	27	8.6
750	31	2,529	[illegible]	-5.3	27	10.3
700	31	3,091	[illegible]	-8.1	27	11.3
650	31	3,688	-.5	-10.6	27	12.4
600	31	4,323	-4.3	-14.1	27	13.9
550	31	5,005	-8.0	-20.1	27	15.4
500	31	5,739	-12.7	-25.7	27	16.4
450	31	6,535	-18.0	-31.0	27	17.8
400	31	7,405	[illegible]	-37.4	28	19.8
350	31	8,369	[illegible]	-42.7	28	[illegible]
300	31	9,443	[illegible]	-49.3	28	24.0
250	30	10,568	-47.4		[illegible]	26.5
200	30	12,120	[illegible]		[illegible]	28.4
175	30	[illegible]	[illegible]		28	27.7
150	30	13,948	-58.2		27	22.7
125	30	15,094	-58.9		[illegible]	18.2
100	30	16,494	-59.0		27	14.4
80	30	17,899	-57.3		27	9.4
70	30	18,746	-55.5		27	7.5
60	29	19,734	-53.7		27	5.1
50	29	20,911	[illegible]		28	2.8
40	28	22,358	-50.8		11	.1
30	28	24,241	-48.7		09	2.3
25	28	25,442	-47.5		09	[illegible]
20	27	26,928	[illegible]		08	4.5
15	27	28,856	-43.2		08	5.7
10	18	31,613	-39.3		09	7.2

[illegible]

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	275	20.0	19.7	21	[illegible]
1000						
950	31	[illegible]	21.4	[illegible]	25	[illegible]
900	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
850	31	1,574	16.7	[illegible]	26	[illegible]
800	31	[illegible]	13.6	[illegible]	26	[illegible]
750	31	[illegible]	11.0	[illegible]	26	[illegible]
700	31	3,204	7.5	-2.5	26	[illegible]
650	31	3,911	4.2	-6.9	[illegible]	[illegible]
600	31	[illegible]	.4	-11.4	[illegible]	[illegible]
550	31	[illegible]	-3.4	-16.7	[illegible]	[illegible]
500	31	5,900	[illegible]	-22.2	25	8.4
450	31	[illegible]	-12.6	[illegible]	25	[illegible]
400	31	[illegible]	-18.7	[illegible]	[illegible]	[illegible]
350	31	[illegible]	-25.6	[illegible]	26	[illegible]
300	31	[illegible]	-34.1	-46.6	[illegible]	[illegible]
250	31	[illegible]	-44.2		28	9.1
200	31	[illegible]	-55.1		29	[illegible]
175	31	[illegible]	-60.5		29	[illegible]
150	31	14,183	-64.0		[illegible]	8.0
125	31	[illegible]	-67.3		[illegible]	[illegible]
100	30	[illegible]	-66.7		27	[illegible]
80	30	[illegible]	-63.6		[illegible]	[illegible]
70	30	18,814	-61.3		[illegible]	[illegible]
60	[illegible]	19,776	[illegible]		[illegible]	[illegible]
50	30	[illegible]	-56.1		[illegible]	[illegible]
40	[illegible]	[illegible]	-53.3		09	[illegible]
30	[illegible]	[illegible]	-50.4		09	[illegible]
25	[illegible]	[illegible]	-48.6		09	[illegible]
20	29	[illegible]	[illegible]		09	[illegible]
15	[illegible]	[illegible]	-44.4		09	15.5
10	14	[illegible]	[illegible]		[illegible]	[illegible]

GUADALUPE IS., MEXICO 1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	15	23	18.8	16.3	32	6.0
1000	15	115	17.8	15.6	32	6.3
950	15	553	16.2	12.8	32	3.8
900	15	1,019	21.7	2.1	29	2.3
850	15	1,513	20.7	.5	27	1.7
800	15	2,034	18.0	-1.3	26	1.6
750	15	2,583	14.8	-3.5	26	1.6
700	15	3,163	11.3	-4.4	27	1.2
650	15	3,777	7.4	-6.3	23	1.5
600	15	4,431	3.6	-11.2	22	1.1
550	15	5,132	-.5	-17.8	17	.5
500	15	5,887	-5.3	-20.3	15	.9
450	15	6,706	-10.9	-25.1	35	.4
400	15	7,600	-17.3	-32.0	19	.9
350	15	8,590	-24.4	-39.0	20	1.5
300	15	9,691	-33.3	-47.2	19	2.7
250	15	10,946	-42.8		19	5.2
200	15	12,418	-53.5		18	6.7
175	15	13,266	-59.3		18	8.6
150	15	14,216	-65.9		18	8.3
125	15	15,308	-71.1		18	4.4
100	14	16,618	-71.8		12	.4
80	13	17,946	-67.7		06	4.6
70	13	18,755	-64.9		07	6.8
60	13	19,702	-62.5		09	8.1
50	12	20,835	-59.7		09	8.9
40	11	22,238	-57.2		08	11.2
30	11	24,070	-54.1		08	15.7
25	10	25,255	-52.3		09	18.0
20	10	26,704	-50.2			
15	9	28,588	-47.1			
10						
7						
5						
4						

*** GUAM, MARIANA IS. 997 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	111	25.3	24.1	14	.9
1000						
950	31	541	24.0	22.2	12	2.3
900	31	1,014	21.3	18.5	12	2.5
850	31	1,508	16.4	15.3	11	2.7
800	31	2,027	15.8	11.5	11	3.0
750	31	2,574	13.0	7.8	12	3.6
700	31	3,153	10.1	3.5	11	3.6
650	31	3,766	6.7	-1.1	12	3.6
600	31	4,420	2.9	-6.4	11	4.0
550	31	5,119	-1.2	-10.4	11	4.4
500	31	5,874	-5.4	-17.1	10	4.3
450	31	6,694	-10.3	-21.6	10	5.0
400	31	7,592	-15.6	-28.3	10	5.1
350	31	8,590	-22.2	-35.7	10	6.1
300	31	9,701	-30.6	-43.6	10	5.9
250	31	10,969	-41.8	-50.3	09	7.3
200	31	12,446	-53.4		08	10.0
175	31	13,292	-60.4		07	11.9
150	31	14,234	-68.4		06	13.9
125	30	15,307	-76.2		07	15.6
100	30	16,579	-78.3		09	17.6
80	27	17,874	-72.6		09	18.3
70	26	18,669	-69.3		09	18.9
60	26	19,594	-66.8		09	21.7
50	25	20,708	-62.7		09	24.9
40	24	22,100	-59.2		09	26.7
30	23	23,921	-55.7		09	26.9
25	21	25,088	-53.5		09	24.3
20	20	26,535	-50.7		08	19.5
15	16	28,439	-46.4		08	18.1
10	8	31,152	-44.0			

HILO, HI 1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	10	22.4	20.3	25	1.1
1000	31	132	22.6	19.8	23	.3
950	31	579	19.8	17.7	09	2.9
900	31	1,044	16.9	15.1	08	3.7
850	31	1,530	14.2	11.5	08	3.4
800	31	2,042	12.7	3.7	09	3.8
750	31	2,583	11.3	-4.1	08	4.7
700	31	3,156	8.8	-7.4	08	4.1
650	31	3,766	5.8	-12.1	09	3.0
600	31	4,417	2.3	-15.0	07	1.5
550	31	5,115	-1.6	-20.1	06	1.1
500	31	5,867	-6.3	-24.2	30	.1
450	31	6,683	-11.4	-29.1	26	1.5
400	31	7,576	-17.6	-34.1	26	3.3
350	31	8,565	-24.4	-40.3	26	6.3
300	31	9,667	-32.8	-47.6	26	9.2
250	30	10,923	-42.8		25	13.2
200	30	12,390	-54.5		25	15.1
175	30	13,233	-60.9		25	14.3
150	30	14,176	-67.6		25	12.5
125	30	15,257	-73.2		25	6.9
100	30	16,564	-72.7		10	2.4
80	29	17,886	-69.6		09	11.5
70	29	18,688	-66.7		09	14.6
60	29	19,626	-64.1		09	17.2
50	29	20,750	-61.1		09	19.4
40	29	22,145	[illegible]		09	20.4
30	29	23,965	-55.6		09	21.9
25	29	25,131	-54.1		09	23.2
20	27	26,567	-50.9		09	25.0
15	24	28,453	-47.6		09	22.9
10	19	31,166	-41.9		09	25.5

HUNTINGTON, WV 989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	246	19.4	17.7	20	.8
1000						
950	31	597	20.7	[illegible]	24	4.3
900	31	1,064	18.5	[illegible]	26	6.2
850	31	1,553	15.2	[illegible]	26	7.9
800	31	2,065	12.2	6.5	26	8.6
750	31	2,604	9.7	.7	26	9.5
700	31	3,174	6.6	-4.3	26	9.6
650	31	3,779	3.3	[illegible]	26	9.9
600	31	4,424	-.2	-12.2	26	10.5
550	31	5,116	-3.9	-17.0	26	11.3
500	31	5,863	-8.4	[illegible]	26	11.4
450	31	6,673	-13.2	[illegible]	26	11.7
400	31	7,560	-19.3	-33.7	26	12.6
350	31	8,542	-26.4	[illegible]	27	13.5
300	31	9,634	-34.9	-45.7	27	15.3
250	31	10,881	-44.8		27	16.7
200	31	12,339	-55.1		28	20.3
175	31	13,183	-59.6		28	19.4
150	31	14,139	-63.3		29	16.1
125	31	15,252	[illegible]		28	12.6
100	31	16,606	-65.2		27	7.7
80	31	17,974	-62.4		28	4.0
70	31	18,804	-59.7		30	.5
60	31	19,773	-57.6		11	1.2
50	31	20,932	-55.2		09	4.2
40	31	22,363	-53.2		09	6.8
30	30	24,230	-50.2		09	8.5
25	30	25,426	-48.5		09	9.7
20	28	26,903	-46.2		09	11.4
15	26	28,431	-43.3		09	13.0
10	16	31,571	-39.8		09	13.4

*** INTERNATIONAL FALLS, MN 970 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	359	9.0	[illegible]	26	[illegible]
1000						
950	31	534	12.2	5.1	[illegible]	3.1
900	31	987	10.4	4.5	[illegible]	5.4
850	31	1,460	7.0	1.9	29	[illegible]
800	31	1,957	4.3	-3.7	[illegible]	7.5
750	31	2,480	1.7	-9.2	[illegible]	[illegible]
700	31	3,033	-1.3	-11.6	29	[illegible]
650	31	3,621	-4.2	-16.6	[illegible]	12.9
600	31	4,248	-7.5	[illegible]	[illegible]	[illegible]
550	31	4,920	-11.5	-24.9	[illegible]	17.5
500	31	5,645	-15.9	-29.7	28	19.7
450	31	[illegible]	-21.3	-34.0	[illegible]	22.7
400	31	7,289	-27.3	-39.2	28	26.1
350	31	[illegible]	-34.3	-45.5	[illegible]	29.7
300	31	[illegible]	-42.0	[illegible]	28	33.1
250	31	[illegible]	-49.8		27	34.7
200	31	11,960	-51.8		27	34.7
175	31	12,826	-52.0		27	32.0
150	31	[illegible]	-53.0		[illegible]	28.1
125	31	14,995	[illegible]		[illegible]	[illegible]
100	31	16,430	[illegible]		28	13.7
80	30	17,864	[illegible]		[illegible]	8.9
70	30	[illegible]	-51.9		[illegible]	[illegible]
60	30	19,726	-51.2		26	4.1
50	30	20,916	-50.3		29	1.3
40	[illegible]	[illegible]	[illegible]		04	.9
30	[illegible]	24,272	-47.3		[illegible]	[illegible]
25	[illegible]	[illegible]	-46.1		08	4.2
20	27	[illegible]	-44.1		[illegible]	5.2
15	27	28,914	-41.4		[illegible]	6.0
10	23	[illegible]	[illegible]		08	8.6
7	18	[illegible]	-33.6		08	7.9
5	10	[illegible]	-30.1			
4	6	38,096	-27.7			

*** ISLE DEL CISNE 1012 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	10	26.7	22.7	09	3.8
1000	31	114	26.7	23.9	09	4.6
950	31	567	23.4	21.0	10	6.7
900	31	1,039	20.5	16.6	10	7.7
850	31	1,531	17.4	13.6	10	[illegible]
800	31	2,048	14.7	8.7	10	8.2
750	31	2,592	12.2	2.8	10	7.8
700	31	3,167	9.1	-2.1	10	7.0
650	31	3,778	5.7	-6.6	11	6.4
600	31	4,429	1.9	-10.2	11	5.5
550	31	5,125	-2.2	-15.8	11	4.7
500	31	5,876	-6.7	-20.4	11	4.2
450	31	6,691	-11.9	-22.6	12	3.3
400	31	7,583	-17.7	-28.5	09	2.1
350	31	8,572	-24.5	-34.7	04	1.4
300	30	9,672	-33.1	-43.7	35	1.5
250	30	10,927	-43.2		33	[illegible]
200	30	12,391	-55.3		31	2.9
175	30	13,231	-61.6		31	4.1
150	30	14,172	-67.4		34	2.9
125	30	15,259	-71.3		05	4.1
100	29	16,572	-72.7		07	9.7
80	28	17,890	-69.5		08	13.4
70	28	18,693	-66.4		09	16.7
60	[illegible]	19,633	-63.9		09	19.1
50	27	20,759	-61.1		09	21.4
40	27	22,155	-58.1		09	22.9
30	25	23,977	-55.3		09	24.1
25	24	25,146	-53.0		09	[illegible]
20	23	26,603	-48.4		09	19.5
15	21	28,518	-43.8		09	[illegible]
10	17	31,255	-40.7		09	23.5
7						

JACKSON, MS 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	100	22.4	21.1	15	1.1
1000	31	141	22.6	21.1	16	1.5
950	31	590	22.7	19.3	16	4.0
900	31	1,061	20.5	15.9	17	4.9
850	31	1,554	17.6	12.2	17	4.6
800	31	2,071	14.8	8.5	17	4.1
750	31	2,615	11.7	4.0	16	3.6
700	31	3,189	8.6	-1.2	16	3.0
650	31	3,799	5.3	-5.7	16	1.9
600	31	4,449	1.5	-10.5	16	1.5
550	31	5,145	-2.3	-14.3	14	.6
500	31	5,896	-6.6	-19.4	[illegible]	.2
450	31	6,712	-11.7	-24.5	31	1.2
400	31	7,604	-17.5	-31.5	32	1.5
350	31	8,593	-24.5	-38.3	33	2.2
300	31	9,695	-32.8	-46.7	33	4.3
250	31	10,952	-42.8		34	6.2
200	30	12,419	-54.4		33	8.4
175	30	13,263	-60.2		33	8.7
150	30	14,211	-65.8		35	[illegible]
125	30	15,307	-70.2		36	5.3
100	30	16,631	-70.1		05	1.8
80	30	17,968	-66.7		05	3.6
70	29	18,782	-63.5		07	5.8
60	29	19,735	-60.6		09	[illegible]
50	29	20,879	-57.5		09	8.6
40	28	22,297	-55.4		09	10.7
30	27	24,144	-52.2		09	13.9
25	27	25,329	-50.3		09	16.2
20	26	26,796	-48.3		09	17.5
15	26	28,704	-45.5		09	18.8
10	22	31,435	-41.2		09	23.0
7	13	33,897	-37.1			

JOHN F. KENNEDY INT. AP NY 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	5	21.0	17.7	24	.8
1000	31	155	20.7	17.1	25	1.7
950	31	599	19.8	13.7	27	3.7
900	31	1,064	17.2	10.9	27	5.5
850	31	1,550	14.1	7.2	26	7.8
800	31	2,060	11.4	4.4	27	10.1
750	31	2,598	8.7	.8	26	11.9
700	31	3,166	5.7	-4.5	26	13.3
650	31	3,770	3.0	-9.4	26	14.5
600	31	4,414	-.4	-13.0	26	15.4
550	31	5,105	-4.3	-16.7	25	16.3
500	31	5,850	-8.7	-22.6	25	17.5
450	31	6,659	-13.7	-27.9	25	18.7
400	31	7,545	-19.6	-33.9	25	18.7
350	30	8,526	-26.7	-40.3	25	20.4
300	30	9,616	-35.5	-46.6	25	21.8
250	30	10,860	-45.1		25	24.3
200	30	12,319	-54.4		25	24.7
175	30	13,166	-58.8		26	23.3
150	30	14,125	-62.3		26	20.4
125	29	15,250	-63.8		26	17.6
100	27	16,618	-62.4		26	14.6
80	26	18,003	-59.5		26	6.2
70	26	18,844	-57.7		25	2.4
60	26	19,821	-55.6		17	1.0
50	26	20,989	-53.6		09	3.0
40	26	22,430	-52.0		09	6.2
30	23	24,303	-49.4		08	9.6
25	22	25,504	-47.3		09	10.0
20	21	26,991	-44.8		09	10.9
15	20	28,927	-42.5		08	12.5
10	14	31,695	-38.3		09	12.9

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	3	26.8	23.1	09	6.8
1000	31	114	25.4	[illegible]	09	7.1
950	31	564	21.7	[illegible]	09	8.2
900	31	1,033	18.9	[illegible]	09	8.6
850	31	1,523	16.3	11.7	09	7.6
800	31	2,038	14.4	6.7	09	6.3
750	31	2,582	12.3	.1	10	5.4
700	31	3,158	9.9	-5.2	10	3.9
650	31	3,770	6.6	[illegible]	09	3.2
600	31	4,422	[illegible]	-14.4	08	2.9
550	31	5,121	-1.2	-17.9	06	2.0
500	31	5,875	-5.5	[illegible]	08	1.5
450	31	6,694	-10.8	[illegible]	05	1.1
400	31	7,588	[illegible]	-31.5	29	.8
350	31	8,580	-24.1	[illegible]	[illegible]	2.0
300	31	9,682	-32.9	-45.7	27	4.5
250	31	10,939	-42.8		26	8.6
200	31	12,406	-54.7		[illegible]	9.7
175	31	13,248	[illegible]		25	9.2
150	31	14,190	[illegible]		25	7.2
125	31	15,272	-73.3		[illegible]	3.3
100	31	16,570	-74.3		09	5.1
80	31	17,881	-70.3		09	12.7
70	31	18,680	-67.7		[illegible]	16.4
60	31	19,614	-64.7		09	19.0
50	31	20,737	-61.3		09	21.5
40	30	22,132	-58.7		09	23.1
30	29	23,951	[illegible]		[illegible]	24.3
25	29	25,117	-53.6		[illegible]	24.3
20	28	26,563	-50.3		[illegible]	24.1
15	26	28,457	-46.7		[illegible]	22.6
10	25	31,176	[illegible]		09	23.5
7	[illegible]	33,594	[illegible]			

KEY WEST, FL 1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Speed m.p.s.
SFC	31	3	27.1	23.6	[illegible]	3.6
1000	31	146	[illegible]	23.5	11	[illegible]
950	31	599	23.5	20.5	11	6.7
900	31	[illegible]	20.7	15.8	12	6.6
850	31	[illegible]	17.7	[illegible]	[illegible]	5.7
800	31	[illegible]	14.8	[illegible]	11	5.0
750	31	[illegible]	11.7	[illegible]	12	4.7
700	31	[illegible]	8.7	[illegible]	12	[illegible]
650	31	[illegible]	5.4	[illegible]	12	4.3
600	31	4,459	1.6	-10.3	12	[illegible]
550	31	[illegible]	-2.6	-13.5	[illegible]	[illegible]
500	31	5,905	-7.3	-17.3	11	3.5
450	30	6,710	-12.2	-23.1	09	3.7
400	30	[illegible]	-18.1	[illegible]	08	[illegible]
350	30	[illegible]	-25.0	-34.4	07	4.5
300	29	9,694	-33.4	[illegible]	06	[illegible]
250	[illegible]	10,948	[illegible]		05	[illegible]
200	29	12,410	[illegible]		04	[illegible]
175	[illegible]	[illegible]	-60.8		04	[illegible]
150	[illegible]	[illegible]	-65.6		[illegible]	7.9
125	29	[illegible]	-68.4		[illegible]	6.5
100	29	[illegible]	-70.2		07	6.7
80	29	[illegible]	-67.5		[illegible]	9.9
70	[illegible]	18,773	-65.0		[illegible]	[illegible]
60	29	19,719	-62.0		08	15.7
50	28	20,851	-59.0		09	[illegible]
40	[illegible]	[illegible]	-56.6		09	[illegible]
30	27	24,097	-53.0		09	20.3
25	[illegible]	[illegible]	[illegible]		09	[illegible]
20	[illegible]	26,740	-47.8		09	20.4
15	24	28,653	-44.7		[illegible]	23.6
10	[illegible]	31,377	[illegible]		09	[illegible]

RAWINSONDE DATA

Average monthly values

KING SALMON, AK
1009 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	15	11.4	[illegible]	13	1.9
1000	29	[illegible]	12.5	8.8	14	2.5
950	29	[illegible]	11.1	7.1	13	4.7
900	29	970	9.0	5.5	13	5.8
850	29	1,442	6.7	2.8	14	6.3
800	29	1,938	4.2	.1	13	7.0
750	29	2,461	1.3	-3.9	14	7.3
700	28	3,013	[illegible]	-8.9	14	7.6
650	28	3,600	[illegible]	-13.3	14	7.6
600	28	[illegible]	-8.8	-17.5	14	8.3
550	28	4,894	-12.7	-22.5	14	[illegible]
500	29	[illegible]	-17.4	-26.7	15	10.0
450	28	6,396	-22.6	-31.9	15	[illegible]
400	28	7,250	-28.9	-37.4	15	11.7
350	28	8,193	-36.2	-43.0	15	12.7
300	27	9,239	-43.9		15	12.3
250	27	10,436	-49.7		15	10.8
200	26	11,893	-49.4		15	7.0
175	26	12,772	-48.3		16	5.0
150	26	13,786	-48.7		17	4.3
125	25	14,975	-49.8		18	3.1
100	24	16,426	-50.3		18	2.2
80	24	17,881	-50.7		17	1.3
70	24	18,751	-50.9		18	.6
60	[illegible]	19,749	-50.8		13	.6
50	20	20,937	-50.7		11	.8
40	20	22,392	-50.4		09	1.6
30	18	24,265	-49.0		10	1.4
25	11	25,398	-47.7		30	.7
20	10	26,884	-45.8		30	.8
15	8	28,817	-42.8			
10						
7						

+ KOROR, CAROLINE IS.
1006 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	30	27.2	24.3	26	1.5
1000	31	86	26.6	24.0	26	1.9
950	31	539	23.4	21.1	25	4.3
900	31	1,010	20.6	17.5	26	4.5
850	31	1,504	17.6	14.3	[illegible]	4.0
800	31	2,022	15.4	11.5	26	2.7
750	31	2,568	12.6	8.4	26	1.5
700	31	3,145	9.3	4.7	12	.2
650	31	3,757	6.0	2.0	09	.9
600	31	4,410	2.3	-2.0	09	2.6
550	31	5,109	-1.5	-7.3	10	3.8
500	31	5,863	-5.6	-12.4	10	5.[illegible]
450	31	6,683	-10.2	-18.0	10	4.7
400	31	7,582	-15.7	-23.7	09	5.7
350	31	8,580	-22.2	-31.4	09	7.4
300	31	9,692	-30.5	-40.5	09	8.7
250	31	10,960	-41.1	-50.0	09	10.6
200	30	12,435	-53.8		08	14.4
175	30	13,279	-61.0		07	15.9
150	30	14,218	-69.1		07	21.1
125	30	15,288	-76.1		07	21.6
100	30	16,570	-76.1		09	13.6
80	30	17,869	-72.5		08	15.0
70	30	18,660	-69.3		09	16.7
60	30	19,587	-67.0		09	20.3
50	30	20,699	-62.3		09	26.6
40	29	22,088	-58.5		09	30.3
30	29	23,923	-52.4		09	18.3
25	27	25,111	-49.9		10	9.8
20	24	26,579	-47.8		10	4.2
15	22	28,489	-46.0		12	1.7
10	17	31,218	-42.2		09	8.1
7	6	33,624	-39.[illegible]			

KOTZEBUE, AK
1013 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	27	5	14.2	11.6	07	1.8
1000	27	110	15.2	9.3	09	1.6
950	27	544	13.8	6.2	14	2.1
900	27	998	10.8	3.9	15	2.8
850	27	1,472	7.6	1.2	15	3.4
800	27	1,970	4.5	-1.9	15	3.4
750	26	2,490	1.4	-5.5	15	4.3
700	26	3,042	-1.5	-10.7	16	4.1
650	26	3,630	-4.4	-13.9	17	4.5
600	26	4,256	-8.2	-17.2	16	5.2
550	26	4,927	-12.2	-22.4	17	5.6
500	26	5,647	-17.1	-28.0	17	6.4
450	26	6,431	-22.4	-32.1	17	7.4
400	26	7,286	-28.8	-38.2	17	8.5
350	26	8,230	-35.9	-44.6	17	10.0
300	26	9,280	-44.1		17	11.1
250	25	10,486	-52.0		17	10.4
200	25	11,928	-51.4		18	5.8
175	25	12,799	-50.1		19	4.8
150	25	13,807	-49.9		19	4.1
125	25	14,999	-50.2		19	2.6
100	25	16,455	-50.5		18	2.1
80	25	17,913	-50.2		17	1.8
70	25	18,785	-49.9		13	2.0
60	25	19,794	-49.6		13	2.4
50	25	20,989	-49.6		11	1.9
40	23	22,456	-49.7		09	2.4
30	23	24,343	-48.5		08	3.6
25	23	25,547	-47.0		08	3.7
20	23	27,032	-45.1		08	3.8
15	23	28,966	-42.4		09	4.4
10	20	31,743	-36.9		09	3.2
7						

LAKE CHARLES, LA
1015 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	23.9	23.5	07	1.5
1000	31	134	25.2	24.1	12	1.5
950	31	586	23.1	21.3	18	3.1
900	31	1,057	20.5	17.4	18	3.5
850	31	1,550	17.7	13.4	17	3.5
800	31	2,067	14.9	10.2	15	2.[illegible]
750	31	2,612	11.9	6.1	15	2.1
700	31	3,187	8.7	3.1	13	1.9
650	31	3,798	5.6	-2.3	10	1.9
600	31	4,449	1.8	-6.1	09	2.1
550	31	5,146	-2.2	-10.6	08	1.9
500	31	5,898	-6.4	-17.6	07	2.2
450	31	6,714	-11.4	-22.8	06	2.2
400	31	7,608	-17.0	-29.6	04	2.4
350	31	8,600	-23.9	-37.8	03	2.9
300	31	9,703	-32.4	-46.0	01	4.0
250	31	10,963	-42.4		01	5.1
200	31	12,432	-54.2		01	7.3
175	31	13,277	-60.1		02	6.5
150	31	14,225	-66.0		02	[illegible].2
125	31	15,318	-70.6		03	6.2
100	31	16,636	-71.1		07	4.6
80	31	17,968	-67.3		07	6.0
70	31	18,780	-64.0		08	[illegible].4
60	31	19,731	-61.0		09	9.6
50	31	20,874	-57.8		09	9.7
40	31	22,288	-55.8		09	12.4
30	31	24,132	-52.8		09	15.7
25	29	25,315	-50.9		09	18.1
20	28	26,778	-48.0		09	18.[illegible]
15	25	28,682	-45.2		09	20.3
10	17	31,393	-41.7		09	24.2
7	8	33,834	-37.6			

LANDER, WY
832 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,697	12.9	5.3	24	1.6
1000						
950						
900						
850						
800	31	2,025	14.3	4.1	31	1.0
750	31	2,567	11.6	1.0	29	1.3
700	31	3,146	8.5	-1.9	26	3.8
650	31	3,751	4.5	-5.1	27	7.0
600	31	4,397	-.6	-9.7	27	10.0
550	31	5,086	-5.5	-15.6	27	12.1
500	31	5,827	-10.8	-22.0	27	14.8
450	31	6,629	-15.8	-27.3	27	16.9
400	31	7,507	-21.7	-33.8	27	19.2
350	31	[illegible],480	-28.6	-39.6	27	22.1
300	31	9,563	-37.0	-45.4	27	27.2
250	31	10,800	-45.9		27	33.2
200	31	12,255	-54.6		27	36.1
175	31	13,105	-57.6		27	32.7
150	31	14,071	-60.6		27	27.5
125	31	15,200	-63.0		27	20.7
100	31	16,570	-63.7		28	11.4
80	30	17,946	-61.3		29	4.8
70	30	18,777	-59.5		29	2.6
60	30	19,748	-57.2		30	1.2
50	30	20,910	-54.6		07	2.2
40	30	22,345	-52.6		07	4.2
30	29	24,214	-50.0		08	6.5
25	29	25,411	-48.3		09	7.5
20	28	26,885	-46.3		09	8.3
15	27	28,805	-44.0		09	9.4
10	22	31,554	-40.0		09	9.7
7	6	33,985	-38.2			

*** LIHUE KAUAI, HI**
1013 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	36	24.8	21.4	06	4.0
1000	31	145	24.0	20.5	06	5.0
950	31	593	22.2	18.5	07	6.4
900	31	1,058	17.1	14.8	07	7.1
850	31	1,545	14.4	11.0	08	6.9
800	31	2,057	13.5	.9	08	6.3
750	31	2,598	11.6	-4.7	09	4.8
700	31	3,173	9.1	-8.5	09	3.4
650	31	3,782	5.5	-11.8	09	1.8
600	31	4,432	1.9	-17.6	10	.9
550	31	5,128	-2.4	-21.2	14	.6
500	31	5,878	-6.8	-25.4	22	1.2
450	31	6,692	-12.2	-29.1	24	2.3
400	31	7,582	-18.4	-35.5	27	3.5
350	31	8,568	-25.6	-41.4	27	5.5
300	31	9,663	-34.2	-49.2	27	8.7
250	31	10,914	-43.8		27	12.0
200	31	12,378	-54.3		26	14.1
175	31	13,223	-60.0		26	14.0
150	31	14,172	-65.8		26	11.6
125	31	15,268	-70.0		26	6.1
100	29	16,589	-70.5		09	2.3
80	28	17,921	-68.2		09	9.[illegible]
70	27	18,727	-65.5		09	12.5
60	27	19,670	-63.0		09	14.4
50	27	20,800	-60.5		09	17.0
40	27	22,198	-58.3		09	19.1
30	27	24,022	-55.3		09	21.1
25	27	25,190	-53.7		09	22.5
20	27	26,633	-50.9		09	24.6
15	26	28,522	-46.9		09	25.6
10	19	31,234	-42.9		09	23.4
7						

LITTLE ROCK, AR
997 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	79	23.0	20.7	20	.8
1000						
950	31	599	23.3	17.7	21	4.9
900	31	1,070	20.6	15.1	21	4.8
850	31	1,563	17.6	11.9	22	4.2
800	31	2,080	14.8	8.0	22	3.5
750	31	2,624	11.7	3.6	22	3.6
700	31	3,199	8.3	-.8	24	3.4
650	31	3,808	5.2	-6.2	24	[illegible]
600	31	4,458	1.5	-9.8	26	2.[illegible]
550	31	5,154	-2.7	-13.3	26	2.9
500	31	5,904	-7.0	-18.8	27	3.1
450	30	6,718	-11.6	-26.6	28	4.0
400	29	7,610	-17.8	-32.4	30	4.9
350	29	8,599	-24.7	-38.2	31	5.7
300	29	9,699	-33.0	-45.1	31	7.3
250	29	10,955	-43.0		32	10.1
200	29	12,422	-54.5		31	12.7
175	29	13,265	-60.4		32	13.3
150	29	14,214	-65.6		32	11.5
125	29	15,309	-70.0		32	7.7
100	29	16,637	-69.1		27	1.3
80	29	17,982	-65.2		36	1.4
70	29	18,801	-62.5		06	2.4
60	29	19,760	-59.4		08	4.3
50	29	20,909	-56.8		09	6.3
40	29	22,330	-54.6		09	8.7
30	29	24,185	-51.4		09	11.7
25	29	25,375	-49.3		09	13.1
20	29	26,847	-46.7		09	15.4
15	28	28,764	-44.2		09	15.8
10	25	31,493	-40.8		09	19.2
7	17	33,951	-36.0		09	23.2

LONGVIEW, TX
1001 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	124	23.0	22.0	16	1.1
1000	23	142	23.0	21.6	17	1.3
950	31	584	23.1	19.4	20	5.0
900	31	1,056	20.8	16.5	20	4.4
850	31	1,549	17.9	13.1	19	3.3
800	31	2,067	15.3	9.3	19	2.1
750	31	2,612	12.1	5.4	18	1.3
700	31	3,187	8.8	1.0	13	.9
650	31	3,798	5.5	-3.3	10	.0
600	31	4,449	1.8	-6.7	13	.3
550	31	5,146	-2.2	-11.4	17	.6
500	31	5,897	-6.4	-19.1	16	.5
450	30	6,714	-11.4	-24.4	01	.8
400	30	7,607	-17.2	-30.4	36	2.1
350	30	8,598	-24.2	-37.0	36	3.2
300	30	9,701	-32.5	-44.6	35	4.0
250	30	10,959	-42.4		33	5.7
200	30	12,429	-54.2		33	7.1
175	30	13,273	-60.3		33	7.1
150	29	14,217	-66.5		34	8.0
125	29	15,308	-71.1		36	5.1
100	29	16,627	-70.6		08	1.8
80	29	17,963	-66.4		05	3.4
70	28	18,777	-63.3		07	5.2
60	27	19,731	-60.4		09	7.1
50	27	20,876	-57.6		09	8.5
40	27	22,293	-55.2		09	10.7
30	27	24,144	-52.0		09	14.0
25	26	25,330	-49.7		09	15.3
20	26	26,799	-47.7		09	16.2
15	26	28,708	-45.7		09	18.6
10	18	31,427	-39.6		09	22.7
7	8	33,909	-36.7			

MCGRATH, AK
1001 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	103	12.3	10.1	27	.7
1000	20	145	13.5	9.3	22	1.0
950	31	544	14.4	6.7	14	1.4
900	31	999	11.7	4.9	14	2.5
850	31	1,474	[illegible].5	2.4	14	2.9
800	31	1,973	[illegible].3	-.7	14	3.8
750	31	2,498	2.0	-3.8	14	4.2
700	31	3,051	-1.4	-6.8	14	4.9
650	31	3,639	-4.5	-11.4	15	5.3
600	31	4,266	-8.0	-17.2	14	5.6
550	31	4,937	-12.1	-22.5	15	[illegible].9
500	31	5,659	-16.8	-26.9	15	6.8
450	31	6,442	-22.2	-31.8	15	7.8
400	31	7,297	-28.4	-37.6	15	9.[illegible]
350	31	8,244	-35.4	-43.5	16	9.8
300	31	9,296	-43.6		16	11.1
250	31	10,500	-51.6		16	11.5
200	31	11,937	-52.7		17	5.9
175	31	12,805	-50.4		18	4.9
150	31	13,811	-50.5		18	3.7
125	31	15,000	-50.8		19	2.5
100	30	16,451	-50.9		17	1.5
80	30	17,903	-50.9		15	1.1
70	30	18,773	-50.7		15	1.2
60	30	19,778	-50.5		13	1.2
50	30	20,968	-50.[illegible]		11	1.2
40	29	22,424	-50.3		09	1.7
30	26	24,297	-48.8		08	2.[illegible]
25	24	25,495	-47.3		09	2.1
20	22	26,985	-45.3		09	2.6
15	18	28,907	-43.0		08	3.3
10	7	31,728	-38.9			
7						

+ MAJURO, MARSHALL IS.
1010 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	3	29.0	24.7	07	3.2
1000	31	92	27.4	23.1	08	3.8
950	31	546	23.8	21.5	08	5.1
900	31	1,018	20.9	17.6	09	5.1
850	31	1,511	17.9	14.0	10	5.4
800	31	2,030	15.6	10.6	10	5.6
750	31	2,576	12.9	7.7	10	6.3
700	31	3,154	10.0	3.6	09	6.4
650	31	3,767	6.7	-.7	09	7.3
600	31	4,421	3.0	-5.0	09	7.2
550	31	5,121	-.9	-10.7	09	7.8
500	31	5,876	-5.1	-15.5	09	7.8
450	31	6,698	-9.7	-22.1	09	7.1
400	31	7,598	-15.2	-27.8	10	6.2
350	30	[illegible],596	-22.0	-34.5	10	5.5
300	30	9,709	-30.2	-42.4	09	4.8
250	30	10,978	-40.6	-47.9	09	5.1
200	30	12,457	-53.3		09	4.6
175	30	13,304	-60.1		10	3.6
150	30	14,248	-67.8		12	2.7
125	30	15,326	-74.7		10	4.0
100	30	16,611	-76.2		09	7.1
80	30	17,912	-71.6		09	11.3
70	30	18,708	-67.9		09	14.2
60	30	19,641	-65.6		09	19.1
50	30	20,759	-62.0		09	24.8
40	30	22,156	-57.5		09	28.7
30	29	23,997	-51.8		09	14.8
25	28	25,182	-49.8		10	6.3
20	26	26,654	-47.1		11	1.4
15	24	28,565	-44.6		08	2.4
10	12	31,297	-41.1			
7						

*** MEDFORD, OR**
967 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	401	17.1	10.2	35	.1
1000						
950	31	556	19.3	8.6	27	.3
900	31	1,021	18.7	6.4	24	.9
850	31	1,509	16.6	3.6	21	.7
800	31	2,024	14.8	.6	22	1.1
750	31	2,567	11.6	-3.4	24	2.3
700	31	3,140	7.5	-5.4	25	3.4
650	31	3,746	3.4	-9.1	24	4.8
600	31	4,390	-1.2	-12.5	24	5.4
550	31	5,078	-5.9	-17.2	24	5.7
500	31	5,818	-10.9	-23.7	25	6.6
450	31	6,619	-16.5	-29.1	26	8.4
400	31	7,494	-22.7	-35.7	26	9.3
350	30	8,462	-30.2	-42.5	25	9.2
300	30	9,537	-38.7	-49.6	25	11.7
250	30	10,766	-46.9		24	16.1
200	30	12,224	-52.8		23	18.9
175	29	13,077	-55.2		24	17.3
150	29	14,054	-58.3		24	14.5
125	29	15,194	-61.2		25	11.5
100	28	16,576	-62.5		26	5.1
80	28	17,955	-61.5		30	2.2
70	27	18,787	-59.5		04	1.3
60	27	19,755	-57.8		06	[illegible]
50	26	20,911	-55.6		07	2.7
40	26	22,341	-53.2		07	3.6
30	26	24,208	-50.5		08	6.3
25	25	25,401	-49.[illegible]		08	8.0
20	25	26,872	-47.3		09	8.6
15	24	28,788	-44.2		09	[illegible].1
10	[illegible]	31,533	-40.8		09	11.1
7	[illegible]	34,027	-35.1			

MERIDA, MEXICO
1013 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	11	22.9	22.5	09	.9
1000	31	122	24.2	22.9	11	3.9
950	31	573	23.5	19.2	12	7.[illegible]
900	31	1,044	21.2	14.0	12	7.4
850	31	1,538	18.3	9.6	12	7.1
800	31	2,055	15.6	4.9	12	[illegible].0
750	31	2,601	12.6	1.0	12	5.6
700	31	3,176	9.2	-2.8	12	4.5
650	31	3,787	5.6	-5.9	11	4.0
600	31	4,437	1.7	-8.1	10	3.8
550	31	5,134	-2.3	-10.9	08	3.1
500	31	5,886	-6.7	-14.9	06	4.3
450	31	6,701	-11.5	-20.5	05	4.6
400	31	7,595	-17.2	-27.8	05	5.0
350	31	8,586	-23.9	-36.2	05	4.5
300	31	9,690	-32.1	-46.4	04	3.7
250	31	10,950	-42.[illegible]		03	4.2
200	31	12,417	-54.[illegible]		03	5.1
175	31	13,260	-60.8		03	7.0
150	29	14,203	-67.4		04	6.2
125	29	15,292	-71.0		05	6.8
100	29	16,605	-72.3		06	10.1
80	28	17,930	-68.7		08	13.5
70	27	18,734	-66.1		09	14.6
60	26	19,675	-63.4		06	17.3
50	26	20,803	-60.5		09	19.8
40	25	22,203	-57.6		09	21.5
30	25	24,037	-53.6		09	20.5
25	25	25,214	-52.0		09	21.0
20	24	26,669	-49.7		09	20.5
15	24	28,566	-46.0		08	23.7
10	13	31,317	-41.7			
7						

MIDLAND, TX
916 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	874	23.1	16.6	14	3.4
1000						
950						
900	31	1,025	23.1	16.9	16	6.0
850	31	1,524	21.7	13.8	19	10.9
800	31	2,049	19.2	10.8	19	7.1
750	31	2,602	15.8	7.1	17	2.6
700	31	3,184	12.0	3.2	11	1.1
650	31	3,801	8.0	-1.0	07	1.9
600	31	4,457	3.1	-4.9	07	2.1
550	31	5,156	-1.6	-11.2	07	1.7
500	31	5,909	-6.1	-17.3	05	1.4
450	31	6,727	-10.7	-24.1	03	1.0
400	31	7,623	-16.3	-29.8	01	.9
350	30	8,619	-23.2	-35.[illegible]	35	2.0
300	29	9,725	-31.7	-43.5	36	1.9
250	29	10,988	-41.8		01	2.6
200	29	12,461	-53.7		36	2.6
175	29	13,306	-60.2		34	4.0
150	29	14,252	-67.1		34	4.0
125	29	15,337	-72.2		35	2.7
100	28	16,647	-71.6		06	1.9
80	28	17,979	-66.7		08	3.7
70	28	18,793	-63.5		08	5.4
60	28	19,745	-61.1		09	6.6
50	28	20,885	-58.7		09	8.5
40	27	22,295	-56.2		09	11.5
30	27	24,139	-52.6		09	14.5
25	26	25,323	-50.6		09	14.4
20	25	26,788	-48.2		09	16.3
15	23	28,702	-45.7		09	20.2
10	21	31,426	-40.8		09	22.8
7	14	33,876	-36.9		09	26.7

MONTERREY, MEXICO
963 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	423	23.6	20.5	13	1.2
1000						
950	31	567	23.1	20.0	12	2.[illegible]
900	31	1,037	20.2	18.2	14	4.2
850	31	1,532	19.[illegible]	13.1	14	[illegible].5
800	31	2,053	17.3	8.1	14	[illegible].8
750	31	2,602	14.1	3.6	13	4.1
700	31	3,181	10.7	-1.9	12	2.4
650	31	3,795	7.1	-6.3	10	1.6
600	31	4,448	2.5	-9.0	07	2.3
550	31	5,146	-1.9	-14.3	08	3.3
500	31	5,898	-6.[illegible]	-20.9	08	4.7
450	31	6,715	-11.0	-25.2	08	5.5
400	31	7,610	-17.1	-31.7	08	5.5
350	31	[illegible],600	-24.[illegible]	-38.0	08	5.3
300	31	9,704	-32.6	-45.0	08	5.[illegible]
250	31	10,961	-42.8		07	5.9
200	31	12,427	-54.8		06	6.1
175	31	13,268	-61.3		06	6.3
150	31	14,210	-67.7		06	7.6
125	29	15,291	-72.5		07	8.3
100	28	16,597	-72.[illegible]		08	8.4
80	27	17,917	-67.7		08	[illegible].7
70	27	18,726	-65.2		09	11.6
60	26	19,671	-62.[illegible]		08	12.7
50	26	20,800	-60.3		08	14.5
40	26	22,200	-57.8		08	17.1
30	26	24,030	-54.3		09	19.9
25	26	25,205	-51.9		09	20.7
20	26	26,662	-49.1		08	21.8
15	23	28,564	-45.7		08	22.9
10	18	31,301	-40.6		08	27.0
7						

MONETT, MO
966 MB

Standard pressure	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	438	20.9	18.6	17	2.1
1000						
950	31	582	21.9	18.3	20	3.9
900	31	1,052	20.8	15.7	23	7.7
850	31	1,546	18.3	11.3	24	7.0
800	31	2,063	15.1	7.[illegible]	25	6.7
750	31	2,608	12.3	[illegible].0	25	5.5
700	31	3,183	8.7	.4	26	4.2
650	31	3,793	5.0	-3.8	27	4.2
600	31	4,442	.8	-8.1	27	4.8
550	31	5,136	-2.8	-15.0	27	5.7
500	31	5,886	-7.2	-19.4	27	6.8
450	30	6,699	-12.3	-26.2	28	7.7
400	30	7,589	-18.2	-32.5	28	8.8
350	30	8,576	-25.1	-37.8	29	11.3
300	30	9,676	-33.1	-44.8	29	13.3
250	30	10,932	-42.9		30	16.2
200	30	12,399	-54.4		29	17.7
175	30	13,243	-59.9		29	17.2
150	30	14,194	-65.2		30	15.4
125	30	15,295	-68.4		30	11.3
100	30	16,633	-68.1		28	6.3
80	30	17,983	-64.6		31	2.6
70	30	18,805	-61.4		03	1.4
60	30	19,768	-58.4		08	2.7
50	29	20,921	-56.1		09	4.6
40	28	22,345	-54.1		09	6.9
30	28	24,202	-51.2		09	9.8
25	28	25,393	-49.3		09	10.7
20	27	26,863	-47.1		09	12.8
15	23	28,782	-44.7		09	13.7
10	15	31,491	-40.8		08	17.9
7	[illegible]	33,958	-36.3			

RAWINSONDE DATA

Average monthly values

NASHVILLE, TN
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	180	20.9	19.6	15	1.1
1000	5	190	21.9	19.4		
950	31	603	22.4	17.7	23	5.0
900	31	1,072	19.7	15.0	24	6.1
850	31	1,563	16.8	11.4	24	6.2
800	31	2,078	13.5	7.7	25	6.6
750	31	2,619	10.6	2.9	25	6.5
700	31	3,191	7.3	-1.8	25	6.6
650	31	3,798	4.0	-7.0	25	6.5
600	31	4,445	.4	-11.1	25	6.9
550	31	5,138	-3.6	-15.5	25	6.8
500	31	5,885	-7.8	-20.5	26	5.8
450	31	6,697	-12.9	-25.8	27	6.9
400	31	7,585	-18.6	[illegible]	28	7.9
350	31	8,571	-25.5	[illegible]	29	9.4
300	31	9,667	-34.0	-46.8	29	11.4
250	31	10,918	-43.9		29	12.9
200	31	12,361	-54.6		30	15.7
175	31	13,225	-59.9		30	14.0
150	31	14,177	-64.6		30	11.8
125	31	15,281	-67.7		30	7.9
100	31	16,622	-67.6		27	4.6
80	31	17,975	-64.0		30	2.2
70	31	18,800	-61.1		07	2.3
60	31	19,764	-58.1		08	3.5
50	31	20,919	-55.9		09	5.6
40	31	22,348	-53.7		09	7.8
30	31	24,209	-51.0		09	11.3
25	30	25,400	-49.1		09	11.9
20	30	26,873	-46.4		09	13.9
15	30	28,791	-44.6		09	15.8
10	21	31,547	-39.5		09	18.4
7	[illegible]	34,010	-36.0			

* NOME, AK
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	12.0	8.4	[illegible]	1.1
1000	31	100	13.6	9.1	[illegible]	1.5
950	31	531	12.2	5.4	13	3.3
900	31	983	9.7	4.3	15	3.3
850	31	1,456	6.9	1.2	15	3.4
800	31	1,952	4.4	-1.7	16	3.7
750	31	2,475	1.2	-4.6	17	3.8
700	31	3,028	-1.5	-9.0	16	4.2
650	31	3,615	-5.0	-13.2	16	4.6
600	31	4,240	-8.8	-17.2	16	4.4
550	31	4,909	-12.8	-24.1	16	5.1
500	31	5,629	-17.5	-30.8	17	5.7
450	31	6,409	-23.2	-34.7	16	6.4
400	31	7,261	-29.5	-39.8	17	6.7
350	31	8,203	-36.4	-45.7	16	7.9
300	31	9,250	-44.4		16	8.9
250	31	10,454	-50.4		17	5.5
200	30	11,905	-51.9		20	3.8
175	30	12,775	-49.9		19	3.3
150	30	13,784	-49.9		20	2.3
125	30	14,975	-50.3		20	2.0
100	30	16,431	-50.3		[illegible]	1.3
80	30	17,887	-50.2		14	.7
70	30	18,760	-50.2		12	1.2
60	30	19,767	-50.0		11	1.7
50	30	20,960	-49.6		10	1.8
40	29	22,418	-49.8		09	2.2
30	28	24,300	-49.0		10	2.1
25	28	25,501	-47.7		08	2.8
20	26	26,980	-45.0		08	2.7
15	25	28,912	-42.8		08	3.0
10	16	31,639	-39.0			

NORTH PLATTE, NE
918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	847	15.7	12.9	09	1.1
900	31	1,015	17.6	13.8	13	1.6
850	31	1,505	17.5	11.3	19	4.4
800	31	2,023	16.0	7.6	23	4.3
750	31	2,569	13.2	3.7	25	5.0
700	31	3,146	9.2	.8	26	6.9
650	31	3,757	4.9	-3.5	28	8.3
600	31	4,405	.4	-9.0	28	10.3
550	31	5,096	-4.5	-14.4	28	12.4
500	31	5,840	-9.3	-20.7	28	14.4
450	31	6,647	-14.4	-25.8	28	16.2
400	31	7,531	-19.9	-32.7	28	[illegible]
350	31	8,511	-27.0	-39.4	28	20.5
300	31	9,601	-35.1	-48.5	27	24.5
250	31	10,847	-44.6		28	27.5
200	31	12,309	-54.1		27	29.0
175	31	13,157	-58.5		27	29.2
150	31	14,116	-62.6		27	28.0
125	31	15,233	-64.9		28	22.3
100	31	16,595	-64.3		28	13.3
80	31	17,969	-61.6		28	5.4
70	31	18,799	-59.4		28	3.6
60	31	19,771	-56.6		32	1.9
50	30	20,934	-54.2		07	2.0
40	29	22,371	-52.3		08	4.1
30	28	24,241	-49.7		09	7.0
25	28	25,439	-48.0		09	7.6
20	27	26,920	-46.2		09	9.0
15	27	28,846	-43.6		09	11.1
10	25	31,595	-39.6		09	14.0
7	6	34,071	-35.2			

OAKLAND, CA
[illegible]

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	6	[illegible]	[illegible]	27	[illegible]
1000	31	114	[illegible]	12.5	[illegible]	2.0
950	31	548	15.4	7.2	28	[illegible]
900	31	1,013	21.6	.4	[illegible]	2.6
850	31	1,507	20.2	-2.6	27	[illegible]
800	31	2,027	17.5	-4.1	25	1.7
750	31	2,574	13.9	-6.4	25	[illegible]
700	31	3,151	9.9	-8.8	24	2.5
650	31	3,762	6.1	-12.5	24	2.8
600	31	4,412	1.7	-16.4	24	3.5
550	31	5,107	-3.2	-20.4	24	4.8
500	31	5,854	-8.3	-24.8	24	6.6
450	31	6,663	-13.7	-30.0	24	8.9
400	31	7,548	[illegible]	-36.1	25	11.6
350	31	8,527	-27.2	[illegible]	24	13.9
300	31	9,615	-35.6	-49.4	24	16.5
250	31	10,861	-44.2		23	20.0
200	31	12,326	-53.8		23	[illegible]
175	31	13,176	-57.8		24	19.9
150	31	14,138	-62.1		24	16.5
125	31	15,256	[illegible]		25	10.8
100	31	16,608	[illegible]		25	[illegible]
80	31	17,965	-64.2		33	.6
70	31	18,788	-61.5		06	1.7
60	30	19,750	-58.7		07	2.7
50	30	[illegible]	-56.4		08	4.3
40	29	22,326	-54.4		09	6.4
30	29	24,182	-51.3		08	9.6
25	28	25,367	-49.9		09	10.8
20	28	26,835	-47.6		09	12.6
15	27	28,744	-45.4		09	14.0
10	22	31,479	-41.4		09	15.9
7	14	33,899	-37.9			

[illegible], NE
[illegible]

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	17.5	15.5	[illegible]	1.0
950	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
900	31	[illegible]	[illegible]	[illegible]	[illegible]	4.7
850	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
800	31	[illegible]	[illegible]	4.7	[illegible]	[illegible]
750	31	[illegible]	[illegible]	2.5	[illegible]	7.8
700	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
650	31	3,747	3.3	-7.1	[illegible]	10.6
600	31	4,392	-.6	-12.8	[illegible]	11.5
550	31	5,082	-4.6	-17.6	[illegible]	12.6
500	31	[illegible]	[illegible]	-22.9	[illegible]	14.2
450	31	6,634	-14.3	-27.8	28	16.1
400	31	7,518	[illegible]	-33.3	[illegible]	17.7
350	31	8,497	[illegible]	-38.3	28	19.4
300	31	9,587	-35.2	[illegible]	[illegible]	22.3
250	31	[illegible]	[illegible]		27	26.7
200	31	[illegible]	-54.9		27	29.2
175	31	13,138	-58.7		27	29.7
150	31	14,097	[illegible]		[illegible]	27.1
125	31	15,216	[illegible]		[illegible]	20.7
100	31	16,580	[illegible]		[illegible]	[illegible]
80	31	[illegible]	[illegible]		[illegible]	7.0
70	31	18,788	[illegible]		[illegible]	4.3
60	31	[illegible]	-56.6		[illegible]	1.9
50	31	20,924	-54.1		[illegible]	1.1
40	30	[illegible]	[illegible]		[illegible]	3.6
30	30	[illegible]	-50.0		09	[illegible]
25	28	[illegible]	-48.0		[illegible]	6.8
20	27	[illegible]	-46.1		[illegible]	8.0
15	25	[illegible]	-43.2		[illegible]	9.6
10	19	[illegible]	-39.9		[illegible]	11.6
7	8	34,019	-37.8			

PAGO PAGO, AMERICAN SAMOA
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	27.5	21.9	11	5.1
1000	31	114	25.0	20.2	11	5.4
950	31	563	21.2	18.4	10	5.7
900	31	1,030	17.7	15.5	10	[illegible]
850	31	1,518	15.5	11.6	10	3.1
800	31	2,033	15.2	2.5	02	.8
750	31	2,579	13.7	-3.3	32	2.0
700	31	3,157	10.8	-7.4	33	2.7
650	31	3,771	7.3	-9.9	32	2.7
600	31	4,424	3.3	-13.6	31	2.7
550	31	5,124	-1.0	-17.4	32	2.6
500	31	5,877	-5.9	-22.4	30	3.0
450	31	6,695	-10.7	-27.3	29	4.1
400	31	7,591	-16.7	-32.7	29	5.7
350	30	8,585	-23.2	-38.4	27	6.6
300	30	9,692	-31.7	-46.1	27	8.2
250	30	10,953	-42.2		28	9.0
200	30	12,423	-54.4		28	9.6
175	30	13,265	-61.2		27	9.4
150	30	14,206	-68.4		27	9.7
125	30	15,281	-75.2		27	8.1
100	30	16,561	-78.3		27	5.5
80	30	17,848	-72.7		26	2.2
70	30	18,645	-66.5		06	.6
60	30	19,587	-63.0		08	4.7
50	30	20,717	-60.2		09	9.5
40	29	22,114	-58.3		08	11.9
30	29	23,936	-55.6		09	11.3
25	28	25,105	-52.8		09	[illegible]
20	28	26,555	-49.9		08	4.5
15	27	28,445	-46.7		09	1.0
10	22	31,156	-41.9		25	1.0
7	13	33,623	-38.0		17	1.0

* PEORIA, IL
993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	200	17.8	15.9	18	.6
950	31	579	19.6	13.8	24	2.7
900	31	1,043	17.2	11.6	26	5.4
850	31	1,530	14.8	7.3	27	7.7
800	31	2,041	12.2	4.1	27	9.7
750	31	2,580	9.7	.1	27	10.8
700	31	3,151	6.6	-4.8	27	11.5
650	31	3,756	3.2	-8.4	27	12.4
600	31	4,400	-.9	-11.6	27	13.1
550	31	5,090	-5.1	-17.0	27	13.4
500	31	5,833	-9.2	-23.7	27	14.1
450	31	6,641	-14.1	-27.6	28	15.4
400	31	7,525	-20.3	-34.5	27	17.6
350	31	8,503	-27.3	-39.4	27	19.3
300	31	9,592	-35.5	-46.4	28	21.5
250	31	10,836	-44.8		28	[illegible]
200	31	12,297	-54.5		28	30.7
175	31	13,143	-58.9		26	29.5
150	31	14,101	-62.6		28	25.5
125	31	15,220	-64.3		28	17.7
100	31	16,586	-63.1		27	12.3
80	31	17,965	-60.8		28	6.7
70	31	18,800	-58.7		28	3.3
60	31	19,774	-56.3		30	1.2
50	31	20,938	-54.2		09	1.8
40	29	22,374	-52.2		09	4.7
30	27	24,245	-49.7		09	6.8
25	26	25,440	-48.6		09	7.7
20	25	26,918	-46.0		09	[illegible]
15	23	28,847	-42.9		09	11.8
10	19	31,600	-39.3		09	12.7

* PITTSBURGH, PA
976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	17.4	15.6	22	2.0
950	31	592	19.0	15.6	25	4.2
900	31	1,056	16.6	13.0	27	6.6
850	31	1,542	13.8	9.7	27	7.5
800	31	2,052	11.1	4.5	27	9.3
750	31	2,589	8.5	-1.0	27	11.4
700	31	3,156	5.4	-5.6	26	12.1
650	31	3,759	2.5	-9.7	26	13.4
600	31	4,402	-1.2	-12.9	27	14.1
550	31	5,091	-4.9	-19.1	27	14.8
500	31	5,835	-9.0	-23.3	27	16.0
450	31	6,642	-14.2	-27.4	26	17.5
400	31	7,525	-20.4	-33.0	26	19.5
350	31	8,503	-27.5	-39.8	26	20.4
300	31	9,590	-36.0	-46.8	27	22.4
250	31	10,830	-45.9		27	25.0
200	31	12,286	-54.7		27	27.8
175	31	13,132	-58.6		27	26.2
150	31	14,094	-61.5		27	22.9
125	31	15,217	-63.9		27	16.7
100	31	16,586	-63.4		27	10.5
80	31	17,966	-60.7		27	5.5
70	31	18,802	-58.5		26	1.7
60	31	19,777	-56.2		11	.7
50	30	20,940	-54.3		09	3.4
40	30	22,378	-52.3		09	6.5
30	29	24,252	-49.7		09	8.5
25	28	25,449	-48.0		09	9.3
20	26	26,927	-45.6		09	10.7
15	21	28,861	-42.5		09	13.0
10	13	31,642	-38.6		09	15.8

PONAPE, CAROLINE IS.
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	39	29.1	24.7	08	1.1
1000	31	77	27.8	23.5	08	1.3
950	31	532	24.4	20.9	09	2.8
900	31	1,005	21.1	18.0	10	3.6
850	31	1,498	17.9	14.5	10	4.4
800	31	2,017	15.5	11.1	10	4.6
750	31	2,563	13.0	7.0	10	4.8
700	31	3,141	9.9	4.0	10	5.8
650	31	3,754	6.5	.3	10	7.2
600	31	4,407	2.9	-5.8	09	8.2
550	31	5,107	-1.1	-9.6	09	8.4
500	31	5,863	-5.1	-14.9	09	8.5
450	31	6,684	-9.7	-20.7	09	7.9
400	31	7,583	-15.3	-28.1	09	7.0
350	31	8,582	-22.1	[illegible]	09	6.7
300	31	9,594	-30.4	-42.5	09	7.3
250	31	10,762	-40.9	-50.3	09	6.1
200	31	12,439	-53.5		08	7.1
175	31	13,285	-60.4		08	6.6
150	31	14,228	-68.1		08	5.2
125	31	15,304	-75.2		08	5.7
100	31	16,583	-77.4		08	9.3
80	31	17,884	-71.2		09	12.5
70	31	18,681	-68.4		09	14.1
60	31	19,611	-65.7		09	19.0
50	31	20,730	-61.7		09	26.3
40	30	22,124	-57.7		09	29.6
30	30	23,963	-51.8		09	16.6
25	29	25,154	-49.0		09	7.5
20	29	26,624	-47.4		13	1.3
15	29	28,536	-44.8		12	1.7
10	24	31,260	-41.5		09	8.9

PORTLAND, ME
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	20	16.5	14.8	27	[illegible]
1000	31	142	17.9	14.4	27	1.8
950	31	592	17.5	[illegible]	27	3.6
900	31	1,043	15.0	[illegible]	27	4.7
850	31	1,525	12.1	4.2	27	[illegible]
800	31	[illegible]	9.6	.4	26	7.9
750	31	2,565	7.2	[illegible]	26	[illegible]
700	31	3,130	4.1	-8.2	26	12.1
650	31	[illegible]	1.3	-12.4	[illegible]	14.2
600	31	4,370	-2.1	-15.6	26	16.8
550	31	[illegible]	-6.1	-19.8	[illegible]	18.1
500	31	[illegible]	-10.8	-24.5	[illegible]	19.1
450	31	6,599	-15.9	-29.4	[illegible]	20.8
400	31	7,476	-21.8	-34.6	26	23.5
350	31	8,449	-28.8	-41.2	25	27.4
300	31	9,531	-36.9	-46.6	[illegible]	30.9
250	31	[illegible]	[illegible]		26	[illegible]
200	31	12,273	-55.0		[illegible]	32.7
175	31	[illegible]	-58.1		[illegible]	[illegible]
150	31	14,034	-60.8		26	25.7
125	31	15,169	-60.7		[illegible]	20.0
100	31	16,556	-60.1		26	[illegible]
80	31	17,957	-57.8		[illegible]	6.9
70	31	[illegible]	-55.6		[illegible]	4.9
60	31	19,789	-54.4		[illegible]	2.4
50	30	[illegible]	-52.8		[illegible]	1.5
40	30	[illegible]	-51.5		[illegible]	[illegible]
30	28	24,285	-49.1		09	[illegible]
25	[illegible]	[illegible]	-47.0		[illegible]	7.3
20	20	26,965	-44.6		[illegible]	8.1
15	19	[illegible]	-42.3		[illegible]	9.4
10	14	31,669	-37.9		09	11.6

QUILLAYUTE, WA
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	58	12.2	11.5	15	.5
1000	31	124	13.1	11.4	15	.5
950	31	558	15.8	8.1	23	.5
900	31	1,018	16.5	2.0	31	1.8
850	31	1,503	14.6	-1.7	31	2.2
800	31	2,012	11.7	-4.6	29	2.8
750	31	2,549	8.4	-9.2	29	3.2
700	31	3,114	4.5	-12.0	28	3.8
650	31	3,714	.8	-16.6	28	4.7
600	31	4,352	-3.2	-19.6	28	5.3
550	31	5,035	-7.8	-22.9	28	6.3
500	31	5,769	-12.7	-27.4	28	6.8
450	31	6,564	-18.6	[illegible]	29	7.8
400	30	7,427	-25.5	-39.1	29	9.5
350	30	8,385	-32.6	-44.3	29	11.4
300	30	9,449	-40.8	-50.0	29	12.0
250	30	10,666	-49.4		28	12.0
200	30	12,112	-53.6		27	14.4
175	30	12,971	-53.9		27	14.3
150	30	13,960	-54.7		27	13.6
125	30	15,121	-56.5		28	11.7
100	30	16,531	-58.0		29	8.2
80	30	17,937	-57.7		29	4.4
70	30	18,782	-56.5		31	2.6
60	29	19,767	-55.2		34	2.0
50	29	20,936	-53.4		04	1.8
40	28	22,375	-51.3		08	2.4
30	27	24,255	-48.9		08	3.9
25	27	25,455	-47.8		08	4.6
20	25	26,941	-45.1		09	5.7
15	21	28,869	-43.2		09	4.0
10	[illegible]	31,625	-38.7		09	5.6

RAPID CITY, SD
906 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	966	12.9	9.3	33	2.4
900	28	1,031	14.7	8.3	32	2.4
850	31	1,506	15.5	4.5	30	3.3
800	31	2,018	13.0	2.8	30	4.7
750	31	2,558	9.8	-.2	29	6.2
700	31	3,128	6.2	-3.7	29	8.4
650	31	3,731	2.2	-7.0	29	10.7
600	31	4,373	-1.9	-11.6	28	13.3
550	31	5,059	-6.4	-17.2	28	16.2
500	31	5,799	-10.9	-21.6	28	17.6
450	31	6,600	-16.1	-27.6	28	18.6
400	31	7,477	-22.4	-34.8	28	19.6
350	31	8,447	-29.6	-41.2	27	22.2
300	31	9,525	-37.8	-47.4	27	26.4
250	31	10,757	-47.2		27	30.7
200	31	12,207	-54.6		27	32.7
175	31	13,057	-57.1		27	32.6
150	30	14,031	-59.7		28	28.8
125	30	15,164	-61.9		28	[illegible]
100	29	16,551	-61.1		28	14.3
80	29	17,941	-59.3		28	7.8
70	28	18,787	-57.5		29	5.2
60	28	19,761	-55.2		30	2.6
50	28	20,929	-53.5		34	1.5
40	27	22,372	-51.7		07	2.7
30	25	24,249	-48.8		08	5.0
25	25	25,450	-47.6		09	5.8
20	25	26,931	-45.7		08	7.4
15	25	28,858	-43.2		08	8.2
10	22	31,620	-38.5		09	10.6
7	10	34,104	-35.2			

ST CLOUD, MN
978 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	316	12.8	11.0	31	.4
950	31	561	15.4	9.5	28	2.7
900	31	1,018	13.8	6.4	28	4.9
850	31	1,499	11.0	4.2	28	6.4
800	31	2,002	8.1	1.2	28	8.6
750	31	2,533	5.3	-2.8	28	10.8
700	31	3,094	2.3	-7.4	27	13.1
650	31	3,689	-.9	-12.0	28	14.3
600	31	4,324	-4.5	-15.4	28	15.8
550	31	5,005	-8.3	-20.0	28	17.9
500	31	5,738	-13.0	-24.7	28	19.3
450	31	6,533	-18.2	-29.4	28	21.6
400	31	7,403	-24.2	-35.6	28	23.6
350	31	8,366	-31.1	-41.6	28	27.1
300	31	9,437	-39.5	-46.7	28	30.5
250	31	10,661	-48.1		27	35.7
200	31	12,109	-54.2		27	36.7
175	31	12,963	-55.7		27	34.5
150	31	13,941	-57.3		28	29.1
125	30	15,087	-58.2		28	23.3
100	29	16,493	-57.9		28	[illegible]
80	29	17,904	-56.2		28	9.2
70	28	18,756	-55.1		28	6.8
60	28	19,743	-54.0		28	4.2
50	28	20,918	-52.4		31	1.5
40	28	22,367	-50.8		07	2.0
30	28	24,250	-48.9		08	4.1
25	27	25,453	-47.2		08	5.9
20	27	26,935	-45.4		09	7.0
15	26	28,864	-42.7		08	7.5
10	21	31,621	-38.4		08	8.6

* ST PAUL ISLAND, AK
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	10	9.6	8.3	11	.9
1000	28	76	9.7	8.6	13	.8
950	29	498	8.1	5.1	12	2.2
900	29	943	6.4	2.3	12	2.5
850	29	1,411	4.6	-1.3	12	3.2
800	29	1,904	2.4	-3.1	11	4.2
750	29	2,423	.1	-8.7	10	4.2
700	29	2,974	-2.5	-12.7	10	4.1
650	29	3,559	-5.1	-16.8	11	4.1
600	29	4,184	-8.7	-22.5	10	4.5
550	29	4,853	-13.0	-26.9	10	4.2
500	29	5,572	-17.9	-31.7	10	4.3
450	29	6,352	-23.2	-36.0	09	4.0
400	29	7,204	-29.1	-41.8	08	4.2
350	28	8,145	-35.9	-44.8	08	4.1
300	28	9,196	-43.8		07	3.0
250	28	10,403	-49.1		07	4.1
200	28	11,870	-47.6		35	2.5
175	28	12,753	-47.7		35	2.0
150	28	13,769	-48.7		33	1.7
125	28	14,964	-50.0		34	.5
100	28	16,420	-50.7		18	.7
80	28	17,874	-50.9		16	.5
70	28	18,743	-51.0		18	.9
60	28	19,746	-51.1		14	1.5
50	27	20,935	-50.8		11	.9
40	27	22,389	-50.7		12	1.5
30	27	24,270	-49.0		10	1.2
25	27	25,470	-47.8		11	1.7
20	24	26,944	-46.1		08	2.4
15	23	28,871	-43.2		07	3.1
10	18	31,639	[illegible]		08	4.0
7	9	34,171	[illegible]			

SALEM, IL
976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	174	19.4	18.2	19	1.1
950	31	583	21.6	15.3	23	5.2
900	31	1,051	19.3	11.5	[illegible]	6.4
850	31	1,541	16.3	8.9	[illegible]	7.9
800	31	2,055	13.7	3.4	[illegible]	7.6
750	31	[illegible]	11.0	-1.2	[illegible]	7.5
700	31	[illegible]	7.5	[illegible]	27	7.8
650	31	3,776	3.9	-7.5	27	8.5
600	31	4,422	.1	-11.3	27	9.3
550	31	5,115	-3.8	[illegible]	27	10.1
500	31	5,861	-8.4	-22.6	27	11.1
450	31	6,671	-13.3	-28.6	27	11.1
400	31	7,557	-19.3	-33.5	27	12.5
350	31	[illegible]	-26.1	-39.5	[illegible]	[illegible]
300	31	9,633	-34.3	-47.2	29	16.8
250	31	10,884	-43.7		29	[illegible]
200	31	12,348	-54.1		[illegible]	22.0
175	31	[illegible]	-59.3		[illegible]	[illegible]
150	31	[illegible]	-63.6		[illegible]	[illegible]
125	31	[illegible]	-66.4		29	13.6
100	31	16,614	-64.9		28	6.9
80	31	17,983	-62.4		[illegible]	4.2
70	31	18,813	[illegible]		31	2.1
60	31	[illegible]	-57.3		07	1.3
50	31	20,944	-54.6		09	3.4
40	30	[illegible]	-52.6		09	5.9
30	30	24,251	-50.0		[illegible]	[illegible]
25	28	25,445	-48.1		09	9.4
20	[illegible]	26,929	[illegible]		09	11.9
15	[illegible]	28,863	-42.6		09	13.9
10	22	31,619	-39.2		09	14.9
7	5	[illegible]	-36.1			

RAWINSONDE DATA

Average monthly values

AUGUST 1977

SALEM, OR
1007 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	61	14.5	11.5	24	.6
1000	31	119	16.2	12.3	27	.4
950	31	557	17.0	11.8	36	1.3
900	31	1,019	17.0	7.7	34	1.5
850	31	1,506	15.8	3.7	32	1.7
800	31	2,019	12.4	-.8	30	2.2
750	31	2,559	10.2	-5.1	28	2.9
700	31	3,129	6.4	-7.8	27	4.3
650	31	3,733	2.7	-11.3	26	5.1
600	31	4,375	-1.7	-14.4	27	6.2
550	31	5,062	-6.5	-18.6	27	7.1
500	31	5,779	-11.8	-24.3	27	7.9
450	31	6,598	-17.4	-30.2	27	8.7
400	31	7,469	-23.6	-34.7	27	9.4
350	31	8,435	-30.7	-41.5	27	10.0
300	31	9,507	-39.4	-47.9	27	11.2
250	31	10,731	-48.2		27	12.5
200	31	12,182	-53.1		26	15.9
175	31	13,040	-54.5		26	16.7
150	31	14,022	-56.6		26	14.3
125	31	15,172	-59.2		27	11.1
100	31	16,566	-60.4		28	7.4
80	31	17,959	-59.4		29	3.9
70	31	18,796	-58.6		31	2.0
60	31	19,770	-56.6		35	1.2
50	31	20,933	-54.5		06	2.[illegible]
40	31	22,367	-52.7		07	2.5
30	31	24,238	-49.8		07	4.6
25	30	25,433	-48.4		08	6.3
20	29	26,907	-46.5		09	6.9
15	28	28,830	-44.0		07	8.0
10	26	31,583	-40.4		09	9.9
7	11	34,100	-35.1			

SALT LAKE CITY, UT
871 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,288	17.9	10.1	15	2.6
850	31	1,500	19.8	5.8	16	3.5
800	31	2,021	17.8	3.2	19	2.9
750	31	2,570	14.3	.5	24	2.6
700	31	3,148	10.0	-2.4	26	4.5
650	31	3,759	5.3	-5.4	26	6.2
600	31	4,408	.5	-8.5	26	7.6
550	31	5,099	-4.8	-12.2	25	9.0
500	31	5,842	-9.8	-19.0	26	10.0
450	31	6,648	-14.9	-24.9	26	13.1
400	31	7,530	-20.6	-31.6	26	15.2
350	31	8,507	-27.7	-37.8	26	17.7
300	31	9,593	-36.2	-45.2	26	21.9
250	31	10,835	-45.2		26	26.6
200	31	12,294	-54.5		26	29.1
175	31	13,140	-58.9		26	27.0
150	31	14,099	-62.5		26	22.6
125	31	15,215	-65.5		27	16.8
100	30	16,571	-65.4		27	6.9
80	30	17,932	-63.8		29	2.8
70	29	18,756	-60.9		30	1.8
60	29	19,720	-58.4		04	1.1
50	29	20,875	-55.7		07	3.0
40	29	22,305	-53.4		09	4.6
30	28	24,170	-50.9		08	7.2
25	28	25,361	-49.5		09	7.9
20	28	26,830	-47.2		09	8.5
15	26	28,748	-44.6		09	10.4
10	21	31,489	-40.2		09	12.4
7	11	33,901	-38.6			

SAN DIEGO, CA
997 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	124	19.0	17.1	31	.4
950	31	542	18.6	11.0	22	.1
900	31	1,010	22.8	3.0	29	.8
850	31	1,507	21.8	2.1	27	1.5
800	31	2,030	19.1	.6	23	1.7
750	31	2,581	15.6	-2.1	20	2.2
700	31	3,162	11.5	-3.8	18	2.5
650	31	3,777	7.7	-8.1	17	2.8
600	31	4,432	3.2	-11.7	18	2.3
550	31	5,131	-1.5	-16.0	19	2.4
500	31	5,883	-6.6	-21.0	20	2.9
450	31	6,698	-11.7	-26.2	21	3.5
400	31	7,590	-17.6	-33.3	21	4.0
350	31	8,579	-24.9	-39.1	22	4.4
300	31	9,678	-33.1	-47.5	22	6.1
250	31	10,934	-42.8		21	8.5
200	31	12,404	-53.8		21	11.0
175	31	13,250	-59.6		20	10.8
150	31	14,200	-65.7		21	11.4
125	31	15,295	-70.2		22	8.2
100	31	16,620	-70.2		30	1.0
80	30	17,957	-66.2		07	2.7
70	30	18,773	-62.8		08	4.5
60	30	19,729	-60.3		09	5.[illegible]
50	30	20,872	-58.0		09	7.6
40	30	22,286	-55.7		08	10.3
30	30	24,132	-52.4		09	13.7
25	30	25,316	-50.7		09	15.[illegible]
20	29	26,773	-48.6		09	16.3
15	29	28,676	-46.1		09	17.9
10	26	31,404	-40.9		09	22.[illegible]
7	14	33,851	-37.1		10	22.9

SAN JUAN, P. R.
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	6	25.3	23.7	11	2.2
1000	31	141	24.9	22.2	11	4.3
950	31	592	22.3	19.8	11	8.0
900	31	1,061	19.2	16.4	11	8.5
850	31	1,551	16.2	12.8	12	[illegible].5
800	31	2,066	13.9	8.5	12	8.1
750	31	2,609	11.4	2.4	12	7.4
700	31	3,182	8.2	-2.4	11	6.[illegible]
650	31	3,791	4.8	-6.4	11	5.7
600	31	4,440	1.2	-10.2	11	4.2
550	31	5,136	-2.3	-16.3	11	4.0
500	31	5,887	-6.7	-21.6	10	2.[illegible]
450	31	6,702	-11.7	-28.1	10	2.4
400	31	7,593	-17.9	-33.6	13	1.3
350	31	8,580	-25.1	-38.4	21	1.2
300	31	9,678	-33.8	-46.2	24	2.3
250	31	10,930	-43.7		24	3.[illegible]
200	30	12,387	-55.4		27	3.8
175	30	13,228	-60.8		27	2.8
150	30	14,175	-65.8		25	1.8
125	30	15,273	-69.5		11	2.5
100	30	16,590	-73.1		10	7.0
80	30	17,910	-69.3		10	14.5
70	30	18,713	-66.4		10	17.3
60	30	19,654	-63.5		10	18.9
50	29	20,783	-60.1		10	21.2
40	28	22,184	-57.6		10	21.9
30	27	24,014	-54.6		10	22.9
25	25	25,188	-52.9		11	23.[illegible]
20	23	26,633	-49.5		10	21.5
15	22	28,534	-45.4		10	21.9
10	15	31,278	-41.3		11	24.[illegible]
7	7	33,727	-38.[illegible]			

* SAULT STE MARIE, MI
986 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	221	10.9	10.1	19	.6
950	31	551	13.1	9.2	25	3.5
900	31	1,005	11.1	5.9	26	5.7
850	31	1,480	8.2	3.7	27	7.1
800	31	1,979	5.7	-.5	27	9.0
750	31	2,505	3.5	-6.4	27	11.1
700	31	3,063	.8	-10.5	27	13.3
650	31	3,655	-2.0	-13.1	27	15.5
600	31	4,288	-5.5	-16.7	27	16.8
550	31	4,966	-9.5	-21.7	27	18.4
500	31	5,696	-14.2	-26.4	27	20.6
450	31	6,487	-19.5	-31.3	27	22.2
400	31	7,352	-25.7	-36.9	27	24.1
350	31	8,309	-32.6	-43.3	27	26.8
300	31	9,375	-40.5	-46.7	27	30.2
250	31	10,595	-48.0		27	35.3
200	31	12,051	-52.1		27	34.7
175	31	12,912	-53.6		27	30.3
150	31	13,901	-54.6		27	26.3
125	31	15,065	-56.1		27	21.1
100	31	16,484	-55.6		27	15.5
80	31	17,909	-54.7		27	9.4
70	31	18,766	-53.3		27	6.3
60	31	19,762	-52.1		26	3.9
50	31	20,947	-50.8		26	1.2
40	31	22,404	-49.8		10	1.1
30	31	24,294	-47.8		09	4.2
25	30	25,502	-46.7		09	5.0
20	26	26,990	-44.7		09	5.4
15	23	28,922	-42.6		08	6.2
10	21	31,693	-38.1		09	9.1
7	7	34,158	-34.8			

SPOKANE, WA
930 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	720	15.8	6.5	15	.9
900	31	996	19.5	4.7	16	.3
850	31	1,487	17.4	1.7	28	1.2
800	31	2,002	13.8	-.4	27	2.[illegible]
750	31	2,541	9.5	-2.0	25	3.5
700	31	3,109	4.9	-4.4	26	5.1
650	31	3,709	.4	-7.8	26	6.2
600	31	4,346	-3.8	-14.3	27	8.0
550	31	5,027	-8.3	-19.5	27	9.3
500	31	5,761	-13.0	-26.0	28	11.0
450	31	6,555	-18.4	-31.7	28	11.9
400	31	7,424	-24.5	-37.9	28	13.0
350	31	8,385	-32.0	-44.5	29	14.2
300	31	9,451	-40.6	-51.3	27	16.6
250	31	10,668	-49.5		27	19.5
200	31	12,112	-53.6		27	23.4
175	31	12,969	-54.4		27	22.0
150	31	13,954	-55.7		27	20.2
125	31	15,111	-57.1		28	16.7
100	31	16,518	-58.5		29	11.8
80	30	17,926	-57.3		29	6.4
70	30	18,773	-56.2		30	3.6
60	30	19,756	-54.9		33	2.6
50	30	20,927	-53.3		03	1.5
40	30	22,370	-51.4		06	2.5
30	30	24,250	-48.9		08	4.4
25	30	25,452	-47.5		08	4.7
20	29	26,931	-45.7		09	5.6
15	26	28,861	-42.9		07	5.1
10	23	31,632	-38.6		09	7.3
7	11	34,121	-34.6			

TAMPA BAY, FL
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	13	23.3	22.6	10	1.6
1000	31	153	24.6	22.8	12	3.8
950	31	604	22.9	19.1	13	5.8
900	31	1,075	20.2	15.0	14	5.1
850	31	1,567	17.5	11.1	14	4.9
800	31	2,083	14.7	7.6	14	4.7
750	31	2,627	11.8	3.3	13	4.2
700	31	3,202	8.6	-1.0	13	4.1
650	31	3,811	5.2	-4.6	12	3.7
600	31	4,461	1.3	-8.4	12	3.9
550	31	5,156	-2.8	-10.6	13	3.9
500	31	5,906	-7.5	-15.6	11	3.6
450	31	6,720	-12.0	-22.1	10	2.9
400	31	7,611	-18.0	-27.7	08	3.1
350	31	8,599	-24.9	-35.0	06	3.7
300	31	9,698	-33.3	-43.9	03	4.8
250	31	10,952	-43.6		01	6.4
200	31	12,414	-55.2		02	8.7
175	31	13,255	-61.0		02	9.5
150	31	14,201	-65.8		03	9.2
125	31	15,299	-69.1		04	7.7
100	31	16,627	-69.6		07	6.3
80	31	17,969	-66.3		07	7.2
70	31	18,781	-64.5		08	10.4
60	31	19,729	-61.7		09	12.6
50	30	20,868	-58.5		09	14.9
40	30	22,279	-56.1		09	16.5
30	30	24,124	-52.4		09	17.3
25	30	25,307	-50.9		09	18.0
20	30	26,766	-49.0		09	19.5
15	30	28,668	-45.8		09	23.4
10	22	31,407	-40.8		09	28.[illegible]

TOPEKA, KS
984 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	268	19.8	17.6	16	1.5
950	31	571	21.0	15.9	24	3.7
900	31	1,039	20.2	12.9	25	6.0
850	31	1,531	18.2	8.1	26	6.8
800	31	2,049	15.4	5.1	27	6.[illegible]
750	31	2,594	12.5	1.9	27	7.5
700	31	3,169	8.8	-.8	27	[illegible].2
650	31	3,779	4.8	-4.2	27	8.2
600	31	4,427	.6	-8.6	28	8.[illegible]
550	31	5,120	-3.7	-14.6	28	9.4
500	31	5,867	-8.[illegible]	-19.7	28	11.2
450	31	6,679	-12.5	-25.3	28	12.9
400	31	7,569	-18.4	-30.5	28	15.0
350	31	8,555	-25.2	-35.7	28	17.7
300	31	9,653	-33.6	-43.2	28	20.[illegible]
250	31	10,906	-43.5		28	23.0
200	31	12,371	-54.4		28	24.2
175	31	13,217	-59.4		28	23.2
150	30	14,170	-63.9		28	22.1
125	30	15,279	-66.5		29	16.8
100	30	16,630	-66.3		27	9.9
80	29	17,993	-62.7		28	4.4
70	29	18,823	-59.8		32	2.0
60	29	19,792	-57.4		06	1.1
50	28	20,950	-54.9		09	3.1
40	27	22,385	-53.0		09	6.0
30	26	24,251	-50.4		09	[illegible].1
25	26	25,446	-48.7		09	9.0
20	25	26,922	-46.0		09	10.7
15	21	28,839	-43.8		09	13.[illegible]
10	15	31,576	-40.8		09	13.9
7	5	34,029	-36.6			

+ TRUK, CAROLINE IS.
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	2	29.0	25.0	36	.1
1000	31	91	27.8	23.9	09	.3
950	31	545	24.2	21.3	12	1.6
900	31	1,018	21.[illegible]	18.0	11	2.5
850	31	1,512	18.2	14.8	10	3.4
800	31	2,031	15.8	11.5	10	4.0
750	31	2,578	13.1	7.5	10	4.7
700	31	3,156	9.9	4.6	09	5.[illegible]
650	31	3,769	6.5	.7	09	6.4
600	31	4,422	2.8	-4.8	09	7.8
550	31	5,122	-.9	-8.6	09	7.9
500	31	5,878	-4.9	-14.2	09	7.7
450	31	6,700	-9.6	-20.9	09	7.9
400	31	7,601	-15.1	-27.0	09	7.[illegible]
350	31	8,600	-21.9	-34.2	09	7.[illegible]
300	31	9,713	-30.3	-41.5	10	7.0
250	31	10,983	-40.6	-50.6	09	7.4
200	31	12,461	-53.3		09	[illegible].0
175	31	13,307	-60.5		08	[illegible]
150	31	14,249	-68.5		07	9.3
125	31	15,322	-76.1		07	8.[illegible]
100	31	16,597	-77.2		08	12.6
80	31	17,895	-71.8		09	15.4
70	31	18,689	-68.4		09	17.0
60	30	19,622	-65.7		09	20.[illegible]
50	30	20,738	-62.3		09	26.0
40	30	22,131	-58.1		09	30.3
30	30	23,967	-52.3		09	17.8
25	30	25,155	-49.6		09	7.7
20	29	26,626	-47.3		12	2.9
15	29	28,532	-45.8		10	3.[illegible]
10	20	31,272	-41.6		09	7.2

* TUCSON, AZ
923 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	789	25.2	16.1	15	2.8
900	31	1,015	25.8	14.0	17	2.3
850	31	1,516	23.2	11.3	23	.8
800	31	2,043	19.8	8.8	28	.6
750	31	2,595	16.0	6.[illegible]	20	.5
700	31	3,177	11.9	2.[illegible]	19	1.6
650	30	3,795	7.8	-.7	19	2.3
600	30	4,450	3.3	-4.6	19	2.4
550	30	5,150	-1.1	-9.8	19	2.0
500	30	5,904	-6.0	-16.0	17	1.9
450	30	6,722	-10.8	-22.4	20	1.9
400	30	7,616	-16.7	-28.5	22	2.3
350	30	[illegible],611	-23.5	-35.[illegible]	22	3.3
300	30	9,717	-31.7	-42.[illegible]	21	5.8
250	30	10,980	-41.7		21	8.2
200	30	12,453	-53.6		21	9.9
175	30	13,299	-60.0		21	10.6
150	30	14,246	-66.6		23	8.5
125	30	15,334	-72.1		23	4.4
100	29	16,645	-71.5		12	.2
80	24	17,975	-67.2		10	2.5
70	24	18,789	-63.1		09	4.4
60	24	19,744	-60.6		09	5.8
50	23	20,885	-58.2		09	8.6
40	22	22,296	-55.4		09	11.2
30	22	24,143	-52.7		09	13.9
25	22	25,324	-51.5		09	14.3
20	22	26,779	-49.4		09	15.4
15	19	28,679	-45.4		09	18.7
10	18	31,405	-42.2		09	22.2
7	13	33,849	-37.9		10	22.4

* VANDENBERG AFB, CA
1001 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	100	13.7	12.4	33	1.4
1000	25	117	13.5	12.2	33	1.5
950	31	546	17.4	6.5	36	3.3
900	31	1,014	22.6	2.3	01	2.9
850	31	1,510	20.6	-.2	36	2.5
800	31	2,031	18.2	-2.2	32	1.3
750	31	2,580	14.7	-4.8	27	1.3
700	31	3,159	11.0	-6.3	26	2.1
650	31	3,773	7.3	-10.8	24	2.6
600	31	4,426	3.1	-15.1	24	3.6
550	31	5,125	-1.4	-18.9	23	4.4
500	31	5,677	-6.7	-23.7	23	4.8
450	31	6,691	-12.2	-29.1	24	5.4
400	31	7,581	-18.4	-34.9	24	6.7
350	31	8,567	-25.6	-40.5	23	8.[illegible]
300	31	9,662	-34.2	-48.4	23	10.9
250	31	10,914	-43.6		23	12.5
200	30	12,379	-54.3		23	13.2
175	30	13,225	-59.6		23	12.[illegible]
150	29	14,177	-64.7		22	12.[illegible]
125	28	15,280	-68.5		23	9.[illegible]
100	27	16,616	-68.6		27	2.4
80	27	17,959	-65.8		05	.[illegible]
70	27	18,775	[illegible]		07	2.5
60	24	19,728	-5[illegible].1		09	4.0
50	24	20,876	-57.[illegible]		09	6.1
40	24	22,292	-55.5		09	8.4
30	23	24,137	-52.4		09	11.5
25	21	25,314	-50.8		09	13.3
20	21	26,775	-48.6		09	14.6
15	19	28,679	-45.9		09	15.8
10	14	31,499	-42.0		09	18.4
7	10	33,844	-37.3			
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VICTORIA, TX
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	33	24.7	22.8	11	.9
1000	31	117	25.8	24.7	16	2.0
950	31	569	23.6	21.3	18	6.8
900	31	1,042	21.2	15.8	18	6.[illegible]
850	31	1,536	18.9	11.4	16	5.3
800	31	2,055	16.1	8.4	14	3.8
750	31	2,602	13.[illegible]	5.3	13	2.9
700	31	3,179	9.6	1.5	10	2.9
650	31	3,792	6.3	-2.3	09	3.1
600	31	4,444	2.6	-7.8	08	3.4
550	31	5,143	-1.3	-12.3	08	3.3
500	31	5,897	-5.9	-17.9	07	3.1
450	31	6,715	-10.6	-23.4	06	3.3
400	31	7,611	-16.4	-30.5	06	3.8
350	31	8,605	-23.4	-38.1	05	3.4
300	31	9,711	-31.9	-45.0	05	4.6
250	31	10,972	-42.1		05	5.2
200	31	12,443	-54.0		05	6.7
175	31	13,288	-60.2		05	6.6
150	31	14,235	-66.6		05	7.1
125	30	15,325	-71.7		06	6.3
100	30	16,638	-71.8		08	7.2
80	30	17,967	-67.1		08	7.1
70	30	18,780	-63.8		09	8.7
60	30	19,731	-61.8		09	10.0
50	30	20,867	-58.9		09	10.7
40	29	22,274	-57.0		09	14.2
30	27	24,111	-52.9		09	17.3
25	27	25,295	-50.5		09	18.3
20	27	26,755	-48.9		09	19.2
15	24	28,663	-45.3		09	21.4
10	19	31,397	-41.1		09	26.5
7	5	33,819	-38.1			

* WAKE IS., PACIFIC AREA
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	5	27.4	24.5	10	3.9
1000	31	120	26.4	23.3	10	4.5
950	31	572	22.9	20.[illegible]	11	5.5
900	31	1,043	20.2	16.6	12	5.6
850	31	1,535	17.2	13.9	12	5.0
800	31	2,052	14.4	11.0	12	4.5
750	31	2,596	12.0	5.2	12	3.7
700	31	3,171	9.1	-.3	12	2.9
650	31	3,782	5.[illegible]	-6.1	12	2.2
600	31	4,433	2.2	-10.0	12	2.2
550	31	5,131	-1.8	-14.2	12	1.9
500	31	5,884	-6.0	-18.7	10	1.[illegible]
450	31	6,701	-11.0	-23.5	09	1.4
400	31	7,595	-17.3	-28.[illegible]	04	2.0
350	30	8,586	-24.3	-35.6	03	2.7
300	30	9,688	-32.7	-43.4	02	3.2
250	30	10,946	-42.8		36	3.7
200	30	12,412	-54.9		34	5.3
175	29	13,252	-61.3		35	6.2
150	28	14,194	-67.[illegible]		36	6.2
125	28	15,278	-72.5		03	5.3
100	27	16,589	-72.9		08	8.2
80	26	17,908	-70.1		09	13.4
70	26	18,708	-67.5		09	14.9
60	26	19,644	-64.7		09	17.9
50	26	20,765	-61.7		09	19.4
40	26	22,155	-59.3		09	21.8
30	26	23,976	-55.3		09	22.2
25	26	25,144	-53.8		09	22.2
20	26	26,586	-51.5		09	24.2
15	24	28,473	-46.8		09	25.5
10	22	31,187	-42.3		09	25.4
7	17	33,610	-38.9		09	27.9
5	5	35,944	-36.1			

* WALLOPS ISLAND, VA NASA
1018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	4	22.8	20.7	22	1.1
1000	31	163	23.3	19.7	24	2.6
950	31	612	22.1	15.7	26	4.4
900	31	1,080	19.3	13.2	27	[illegible].1
850	31	1,570	16.4	9.5	26	[illegible].0
800	31	2,084	13.5	5.8	26	6.7
750	31	2,626	10.[illegible]	1.6	26	7.[illegible]
700	31	3,198	7.6	-3.4	25	[illegible]
650	31	3,805	4.0	-6.4	26	9.8
600	31	4,451	.3	-9.9	26	10.5
550	31	5,145	-3.4	-16.0	26	10.9
500	31	5,893	-7.5	-21.[illegible]	25	11.1
450	31	6,706	-12.5	-26.7	25	10.9
400	31	7,595	-18.7	-32.[illegible]	25	12.4
350	31	8,580	-25.5	-38.8	25	12.7
300	31	9,676	-34.4	-46.9	25	12.2
250	31	10,924	-44.[illegible]		25	12.5
200	31	12,383	-55.0		26	12.5
175	31	13,226	-59.[illegible]		26	12.[illegible]
150	31	14,178	-64.3		28	10.8
125	31	15,285	-67.1		26	8.8
100	31	16,637	-65.7		26	7.4
80	31	18,005	-62.1		28	2.2
70	31	18,835	-60.0		23	.3
60	31	19,803	-57.7		10	2.9
50	31	20,759	-55.8		09	5.7
40	31	22,389	-53.1		09	8.5
30	31	24,259	-49.7		09	10.2
25	30	25,457	-48.3		09	11.[illegible]
20	29	26,934	-45.9		09	12.4
15	28	28,858	-43.5		09	15.2
10	21	31,614	-39.4		09	16.3

WASHINGTON DULLES INT. AP
1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	85	18.8	17.7	23	.6
1000	31	154	20.1	17.2	24	1.1
950	31	600	21.2	14.4	27	3.9
900	31	1,067	18.8	11.[illegible]	28	5.4
850	31	1,556	15.8	8.8	27	6.0
800	31	2,069	12.8	5.2	26	7.3
750	31	2,609	9.5	.6	26	8.5
700	31	3,178	6.6	-4.3	26	9.5
650	31	3,784	3.2	-7.7	26	10.6
600	31	4,428	-.5	-12.7	26	11.6
550	31	5,119	-4.1	-17.8	26	12.6
500	31	5,865	-8.4	-23.0	26	13.2
450	31	6,675	-13.4	-28.2	26	13.8
400	31	7,561	-19.4	-33.2	26	15.2
350	31	8,543	-26.4	-38.9	26	16.1
300	31	9,636	-34.7	-45.4	26	16.5
250	31	10,882	-44.9		26	18.2
200	31	12,340	-55.0		26	18.6
175	31	13,184	-59.7		27	17.3
150	31	14,138	-63.7		27	14.8
125	31	15,250	-65.8		27	11.5
100	31	16,606	-64.5		26	6.9
80	31	17,977	-61.6		27	4.7
70	30	18,810	-59.6		26	1.5
60	30	19,779	-57.4		11	1.0
50	30	20,939	-55.0		09	3.6
40	30	22,371	-52.9		09	5.9
30	30	24,239	-50.0		09	7.7
25	29	25,432	-48.2		09	9.2
20	29	26,910	-46.0		09	10.3
15	25	28,832	-43.8		09	12.4
10	14	31,584	-39.3		09	15.5
7	6	34,082	-35.4			

RAWINSONDE DATA

Average monthly values

WAYCROSS, GA
1013 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	44	22.[illegible]	21.8	02	.1
1000	31	155	23.5	22.2	15	1.3
950	31	605	22.5	19.6	17	3.8
900	31	1,075	20.1	15.8	17	3.5
850	31	1,567	17.2	12.2	17	3.7
800	31	2,083	14.4	6.2	17	2.6
750	31	2,626	11.6	4.0	17	3.[illegible]
700	31	3,201	8.4	-1.0	17	3.5
650	31	3,810	5.1	-4.0	17	3.6
600	31	4,460	1.4	-8.7	19	2.7
550	31	5,155	-2.7	-14.3	17	2.4
500	31	5,905	-7.0	-19.9	18	2.0
450	31	6,720	-11.9	-25.7	13	1.6
400	30	7,610	-18.[illegible]	-31.0	[illegible]	.4
350	30	8,597	-25.2	-37.4	36	1.5
300	29	9,694	-33.7	-46.2	01	3.0
250	29	10,947	-43.5		02	5.1
200	29	12,410	-54.8		01	6.9
175	29	13,253	-60.4		01	8.[illegible]
150	29	14,202	-65.5		02	7.6
125	29	15,300	-69.0		03	6.4
100	29	16,633	-68.7		07	3.3
80	28	17,979	-65.5		07	4.5
70	28	18,797	-62.8		07	6.3
60	28	19,752	-60.6		08	9.3
50	27	20,895	-57.6		09	11.7
40	27	22,315	-54.5		[illegible]	12.7
30	27	24,171	-51.6		09	14.9
25	27	25,358	-50.2		09	15.3
20	26	26,824	-47.8		09	17.2
15	26	28,737	-44.5		08	21.4
10	25	31,481	-39.9		09	24.5
7	[illegible]	33,913	-37.3			
5						

WEST PALM BEACH, FLA.
1017 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	7	[illegible]	22.9	11	[illegible]
1000	31	154	26.3	23.1	12	4.1
950	31	606	22.8	19.7	12	6.0
900	31	1,076	20.0	15.5	12	6.4
850	31	1,564	17.1	11.3	12	6.2
800	31	2,064	14.5	[illegible]	12	5.5
750	31	2,628	11.5	2.9	12	4.7
700	31	3,202	8.6	-2.3	12	4.7
650	31	3,812	5.2	[illegible]	12	5.3
600	31	4,461	1.3	-9.4	12	4.7
550	31	5,156	-2.9	-13.4	12	4.6
500	31	5,905	-7.5	-17.0	12	3.9
450	30	6,718	-12.4	-22.6	10	3.9
400	30	7,608	[illegible]	[illegible]	09	4.1
350	30	8,594	[illegible]	-34.5	08	[illegible]
300	30	9,692	-33.7	-42.8	06	5.1
250	30	10,944	-43.8		05	7.4
200	30	12,404	-55.3		03	9.6
175	29	13,247	-60.7		03	9.6
150	29	14,194	-65.6		03	8.5
125	29	15,296	-68.2		04	6.4
100	29	16,630	-69.2		07	5.5
80	29	17,973	-66.3		08	8.5
70	29	18,787	-64.1		08	11.5
60	29	19,738	-61.2		08	14.1
50	28	20,877	-58.5		[illegible]	16.[illegible]
40	28	22,269	-55.6		09	10.2
30	28	24,137	-52.[illegible]		09	17.1
25	27	25,325	-49.6		09	13.6
20	27	26,795	-47.4		09	19.9
15	26	28,712	-44.4		09	24.7
10	25	31,451	-40.3		09	28.4
7	8	33,915	-35.7			

WINNEMUCCA, NEV.
869 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,312	18.4	3.8	15	.4
850	31	1,496	[illegible]	4.4	[illegible]	[illegible]
800	31	2,019	18.7	1.4	26	.4
750	31	2,569	14.5	-1.1	26	1.[illegible]
700	31	3,146	10.1	-4.6	26	2.6
650	31	3,756	5.6	-7.1	25	4.6
600	31	4,407	[illegible]	-11.0	24	7.3
550	31	5,100	-4.3	-13.8	25	8.7
500	31	5,844	-9.6	-19.5	26	9.[illegible]
450	31	6,649	-15.[illegible]	-25.4	26	10.8
400	31	7,530	[illegible]	-32.9	26	12.[illegible]
350	30	8,5[illegible]	-28.2	-39.5	25	[illegible]
300	30	9,580	-36.3	-47.0	25	19.8
250	29	10,830	-45.1		25	22.9
200	29	12,292	-53.7		25	25.2
175	28	13,144	[illegible]		25	24.[illegible]
150	28	14,107	[illegible]		[illegible]	20.0
125	28	15,232	-63.8		26	13.[illegible]
100	[illegible]	16,595	-64.4		27	5.9
80	25	17,963	-62.3		29	1.5
70	25	[illegible]	-59.6		27	.4
60	24	19,762	-57.8		10	.3
50	24	20,919	-55.0		07	1.7
40	24	22,353	-53.0		08	4.4
30	24	24,218	-50.4		08	6.7
25	24	25,412	-48.9		07	7.9
20	22	26,874	-47.0		07	8.9
15	[illegible]	28,798	-44.5		09	10.2
10	14	31,518	-41.2		09	10.6

[illegible]
[illegible] MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	18.[illegible]	[illegible]	18	1.[illegible]
850	[illegible]	[illegible]	19.[illegible]	11.5	[illegible]	[illegible]
800	[illegible]	[illegible]	[illegible]	[illegible]	26	[illegible]
750	[illegible]	2,597	[illegible]	5.4	[illegible]	[illegible]
700	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.7
650	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
600	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.[illegible]
550	[illegible]	[illegible]	-1.[illegible]	[illegible]	[illegible]	[illegible]
500	30	[illegible]	[illegible]	[illegible]	[illegible]	4.5
450	30	[illegible]	[illegible]	[illegible]	25	5.4
400	30	[illegible]	-17.[illegible]	[illegible]	25	6.[illegible]
350	[illegible]	[illegible]	[illegible]	-34.9	25	8.[illegible]
300	30	9,709	[illegible]	[illegible]	[illegible]	10.[illegible]
250	30	10,969	-4[illegible]		[illegible]	[illegible]
200	30	[illegible]	-5[illegible]		[illegible]	15.0
175	30	13,286	[illegible]		24	14.[illegible]
150	30	14,235	[illegible]		[illegible]	13.[illegible]
125	[illegible]	15,328	-70.[illegible]		26	8.[illegible]
100	30	16,652	-70.[illegible]		[illegible]	1.[illegible]
80	30	[illegible]	-65.[illegible]		[illegible]	.6
70	30	[illegible]	-62.[illegible]		[illegible]	1.6
60	30	19,768	[illegible]		09	4.0
50	30	20,917	-57.1		09	6.3
40	[illegible]	[illegible]	[illegible]		09	9.0
30	30	24,192	-51.5		09	11.[illegible]
25	[illegible]	25,379	-50.0		[illegible]	[illegible]
20	[illegible]	26,844	-4[illegible].3		09	[illegible]
15	23	28,757	[illegible]		[illegible]	16.[illegible]
10	18	[illegible]	-41.[illegible]		09	20.[illegible]
7	7	33,912	-37.[illegible]			

[illegible]
[illegible] MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	[illegible]	12	[illegible]	[illegible]	[illegible]	[illegible]
1000	[illegible]	[illegible]	[illegible]	10.[illegible]	[illegible]	[illegible]
950	[illegible]	575	[illegible]	[illegible]	[illegible]	[illegible]
900	31	[illegible]	[illegible]	[illegible]	16	1.3
850	[illegible]	[illegible]	9.2	[illegible]	[illegible]	[illegible]
800	31	[illegible]	7.0	-2.[illegible]	[illegible]	1.4
750	[illegible]	[illegible]	4.5	-5.[illegible]	16	[illegible]
700	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
650	31	[illegible],684	[illegible]	[illegible]	[illegible]	[illegible]
600	[illegible]	[illegible]	-5.8	[illegible]	[illegible]	2.6
550	[illegible]	[illegible],993	[illegible]	[illegible]	[illegible]	[illegible]
500	[illegible]	[illegible]	-14.7	[illegible]	[illegible]	3.6
450	31	[illegible]	-20.1	[illegible]	[illegible]	[illegible]
400	31	[illegible]	-26.4	[illegible]	[illegible]	[illegible]
350	[illegible]	[illegible],322	[illegible]	[illegible]	[illegible]	5.0
300	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]
250	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
200	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
175	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
150	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
125	[illegible]	[illegible]	[illegible]		[illegible]	4.4
100	[illegible]	[illegible]	-52.4		[illegible]	[illegible]
80	[illegible]	[illegible]	-52.2		[illegible]	2.8
70	26	[illegible]	[illegible]		[illegible]	[illegible]
60	26	[illegible]	[illegible]		[illegible]	[illegible]
50	[illegible]	20,972	-51.0		[illegible]	[illegible]
40	26	[illegible]	[illegible]		06	[illegible]
30	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
25	26	[illegible],506	[illegible]		[illegible]	2.0
20	26	[illegible]	[illegible]		08	2.8
15	[illegible]	[illegible]	-42.5		[illegible]	1.2
10	24	31,[illegible]	-37.9		[illegible]	[illegible]
7	21	[illegible]	[illegible]			[illegible]
5	9	36,[illegible]	[illegible]			

YAP, CAROLINE IS.
1008 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	14	27.6	24.5	26	1.0
1000	31	82	26.4	23.4	26	1.3
950	31	534	23.1	21.0	26	2.2
900	31	1,005	20.3	17.4	25	1.5
850	31	1,498	17.6	14.5	27	.6
800	31	2,016	15.1	11.5	08	.6
750	31	2,562	12.3	8.2	07	1.6
700	31	3,138	9.3	4.4	04	2.4
650	31	3,750	6.0	.8	10	3.2
600	31	4,402	2.2	-2.9	10	4.1
550	31	5,101	-1.5	-8.0	10	5.0
500	31	5,854	-5.7	-13.8	10	5.1
450	31	6,674	-10.1	-18.6	10	7.1
400	31	7,573	-15.5	-24.8	10	7.1
350	31	8,571	-22.2	-32.1	10	7.1
300	31	9,683	-30.6	-40.6	10	7.5
250	30	10,951	-40.[illegible]	-48.2	09	8.3
200	30	12,428	-53.6		08	11.3
175	30	13,273	-60.5		07	14.0
150	30	14,215	-68.6		07	18.8
125	30	15,288	-76.0		07	21.3
100	30	16,567	-75.6		08	17.4
80	30	17,871	-71.8		08	18.1
70	30	18,664	-69.0		09	20.0
60	30	19,592	-66.3		09	22.1
50	30	20,709	-61.9		09	25.4
40	29	22,100	-58.5		09	28.7
30	29	23,926	-54.6		09	24.3
25	29	25,102	-51.3		09	17.3
20	27	26,566	-47.8		10	10.9
15	27	28,473	-45.8		11	8.3
10	21	31,210	-42.1		09	12.4
7	8	33,658	-38.6			

YUCCA FLAT, NEV.
880 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,198	17.2	5.2	29	.4
850	31	1,501	23.0	6.5	24	1.4
800	31	2,027	21.1	3.5	2[illegible]	4.6
750	31	2,580	16.4	.7	21	5.2
700	31	3,162	11.9	-2.0	2[illegible]	4.7
650	31	3,778	7.4	-5.5	19	4.5
600	31	4,431	2.6	-9.6	2[illegible]	4.1
550	31	5,129	-2.1	-14.7	22	4.0
500	31	5,879	-7.2	-20.5	23	5.3
450	31	6,693	-12.3	-25.7	24	6.6
400	31	7,583	-18.5	-31.5	24	8.6
350	31	8,568	-25.5	-38.2	24	10.2
300	31	9,664	-33.8	-45.8	24	12.9
250	30	10,917	-43.3		23	14.4
200	30	12,384	-53.9		23	16.2
175	30	13,232	-59.0		24	16.5
150	30	14,187	-64.4		24	14.1
125	30	15,291	-68.3		25	11.1
100	28	16,626	-67.7		25	3.1
80	28	17,974	-65.0		30	.2
70	28	18,795	-61.8		10	1.3
60	27	19,754	-58.9		10	1.6
50	27	20,905	-56.5		09	4.0
40	27	22,328	-54.3		09	6.4
30	25	24,182	-51.7		09	8.7
25	25	25,370	-50.0		09	10.0
20	24	26,834	-48.2		[illegible]	10.9
15	22	28,742	-45.4		09	13.3
10	17	31,475	-41.8		10	14.6

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

Sun's zenith distance

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°

ALBUQUERQUE, NM

Air mass

Date	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1----	----	----	----	----	1.39	1.14	.99	.88	.79
[illegible]	(.79)	.94	----	[illegible]	1.37	1.19	1.04	.94	.84
[illegible]	.74	(.92)	1.03	1.18	1.43	1.20	1.01	(.86)	.76
[illegible]	----	----	----	----	1.35	1.13	.95	.83	.73
[illegible]	.78	.88	1.00	1.08	[illegible]	1.16	----	----	----
[illegible]	.80	.90	1.01	1.16	1.36	----	----	----	----
[illegible]	.76	.87	.99	1.14	1.37	----	----	----	----
[illegible]	----	----	----	----	1.35	----	----	----	----
[illegible]	----	----	----	----	(1.30)	----	----	----	----
[illegible]	----	----	----	----	----	1.17	1.00	----	----
16----	.79	.86	.95	----	----	----	----	----	----
18----	----	----	----	----	1.37	----	----	----	----
19----	.80	.91	1.03	1.17	1.36	----	----	----	----
21----	----	----	1.02	1.19	----	(1.19)	----	----	----
23----	.86	.93	1.06	1.19	1.36	1.16	1.01	----	----
24----	----	----	----	----	----	1.10	----	----	----
25----	----	.97	1.10	1.24	1.37	----	----	----	----
26----	.88	.98	1.08	1.25	1.37	1.23	1.11	1.01	.93
27----	.82	.93	1.05	1.24	----	1.17	.95	.81	.68
28----	.76	.85	1.00	1.17	1.38	1.16	.99	.88	.76
29----	.71	.81	.93	1.10	1.34	.89	.64	.56	.44
30----	.64	.77	.86	1.08	----	.91	----	----	----
31----	.72	.84	.99	----	----	----	----	----	----
Averages	.77	.89	1.01	1.17	1.37	1.12	.97	.84	.74

MADISON, WI

Air mass

Date	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1----	S .64	S .74	S .87	S 1.05	----	----	----	----	----
10----	M .58	----	----	----	----	----	----	----	----
11----	----	----	----	----	----	S 1.18	S 1.06	S .95	S .85
12----	S .81	S .91	S 1.02	S 1.17	S 1.30	S 1.12	S .95	S .83	S .72
15----	S .69	S .77	S .86	S 1.08	----	----	----	----	----
17----	----	----	----	S 1.07	S 1.32	S 1.15	----	S .90	S .81
18----	S .82	S .92	S 1.03	S 1.17	----	S 1.14	S 1.01	S .89	S .81
22----	S .56	S .82	S .95	S 1.07	M 1.11	----	----	----	----
24----	S .79	S .90	S 1.01	S 1.17	----	S 1.17	S 1.01	----	S .81
29----	S .77	S .87	S .98	S 1.13	----	----	----	----	----
Averages	.71	.84	.96	1.11	1.24	1.15	1.01	.89	.80

TUCSON, AZ

Air mass

Date	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1----	----	----	----	----	----	.81	.58	.53	----
2----	----	----	----	----	1.23	.98	.82	----	----
3----	.63	.75	.86	1.04	1.27	----	----	----	----
4----	----	----	----	----	1.32	----	.92	.81	.71
[illegible]	.71	.82	.94	1.11	1.33	----	.94	----	----
[illegible]	----	.75	.88	----	----	----	----	----	----
10----	----	----	----	----	1.27	----	.91	.75	.68
11----	----	----	.90	1.07	1.29	----	----	----	----
12----	----	----	----	----	1.25	----	----	----	----
13----	----	----	----	----	1.25	----	----	----	----
14----	----	----	----	----	1.27	----	----	----	----
17----	----	----	1.01	1.14	1.31	----	----	----	----
18----	.66	----	.93	----	----	----	----	----	----
19----	----	----	----	1.02	1.15	----	----	----	----
22----	.65	.75	.87	1.04	1.24	----	----	----	----
23----	.59	.70	.83	1.01	1.21	1.03	.91	.82	.72
24----	.73	.81	.92	1.08	1.32	1.14	.99	.90	.82
25----	.82	.91	1.01	1.18	1.41	1.25	1.10	.99	.91
26----	.92	1.01	1.13	1.29	1.42	1.24	1.08	.98	.88
27----	.81	.92	1.05	1.19	1.41	1.15	1.01	.91	.78
28----	.82	.91	1.05	1.24	1.42	1.24	1.07	.96	.86
29----	.74	.85	.99	1.10	1.34	1.03	.86	.74	.65
30----	----	----	----	----	----	1.08	.86	.78	.69
31----	.43	---	.66	.91	1.12	1.01	.86	.72	.64
Averages	.71	.83	.94	1.10	1.29	1.09	.92	.82	.76

BLUE HILL OBSERVATORY, MA

Air mass

Date	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.8

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HI

Air mass

Date	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1----	----	1.24	1.33	1.43	1.51	1.37	1.25	1.18	1.08
3----	----	----	----	1.43	----	----	----	----	----
4----	----	----	----	----	----	1.41	1.32	1.22	1.15
5----	----	----	----	----	1.53	1.42	1.33	1.25	1.19
6----	----	1.28	1.37	1.43	----	----	----	----	----
8----	----	1.19	1.29	1.40	----	----	----	----	1.11
9----	----	1.22	1.31	1.41	1.54	1.40	1.29	1.19	1.12
10----	----	1.29	1.37	1.47	1.56	----	1.27	1.20	1.10
11----	----	----	1.35	1.45	1.54	----	----	----	----
19----	----	----	----	----	----	----	1.25	1.16	1.07
20----	1.21	1.27	1.41	1.46	1.54	1.39	1.29	1.19	1.11
21----	1.17	1.26	1.36	1.46	1.55	1.45	1.40	1.31	1.26
22----	----	1.21	1.31	1.41	----	----	----	----	----
23----	1.13	1.20	1.30	1.40	1.54	1.36	1.35	1.26	1.19
24----	1.19	1.28	1.36	1.46	1.61	1.46	1.35	1.26	1.17
25----	1.22	1.27	1.35	1.45	1.60	1.43	1.36	1.27	1.17
26----	1.16	1.24	1.33	1.44	1.54	1.39	1.29	1.18	1.12
27----	1.15	1.23	1.32	1.43	----	----	----	----	----
28----	1.10	1.18	1.27	1.39	----	----	----	----	----
29----	1.11	1.18	1.27	1.39	1.57	1.47	1.37	1.28	1.21
30----	----	1.30	1.38	1.48	1.57	1.40	----	----	----
31----	1.15	1.23	1.32	1.42	1.55	1.43	1.31	1.22	1.15
Averages	1.16	1.24	1.33	1.43	1.55	1.41	1.32	1.23	1.15

Air mass

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska

AUGUST 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	[illegible]	[illegible]	[illegible]	136	82	77	179	1	106	51	142	169	85	197	6	179	65	186	186	41	208	44	180	117	139	42	42	74	83	[illegible]	[illegible]	[illegible]

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly averages (< 3900 A) at Ames, Iowa

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys:																																

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
$F. = \frac{9}{5} \times C. + 32$
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
+	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
____	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
^	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

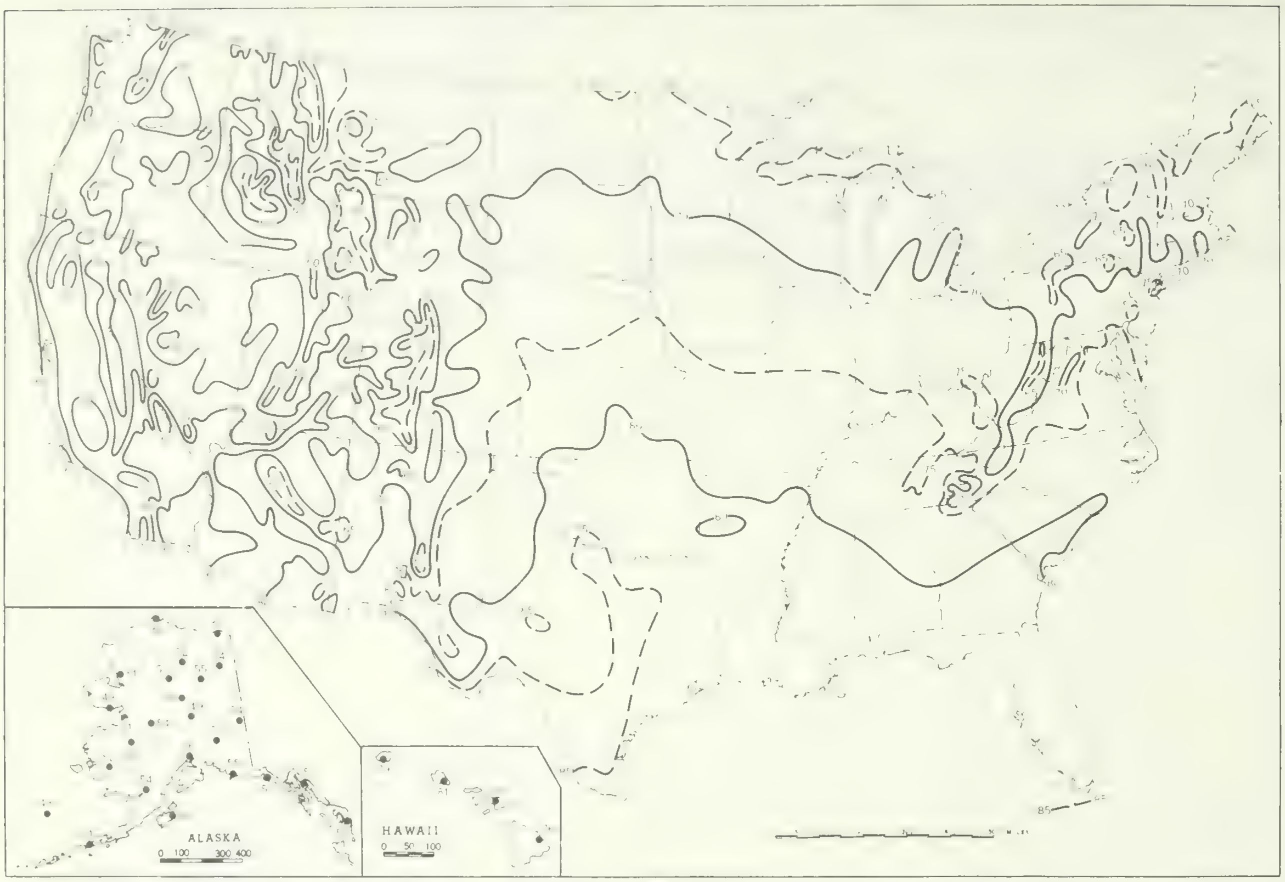
( )	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
*	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable	N	Sand
BN	Blowing Sand	GF	Ground Fog	K	Smoke	S	Slight Haze-indeterminable
D	Dust	H	Haze	KI	Intense Smoke		
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), August.



B. Temperature Departure from 30 - Year Mean (F 1941-70), August 1977

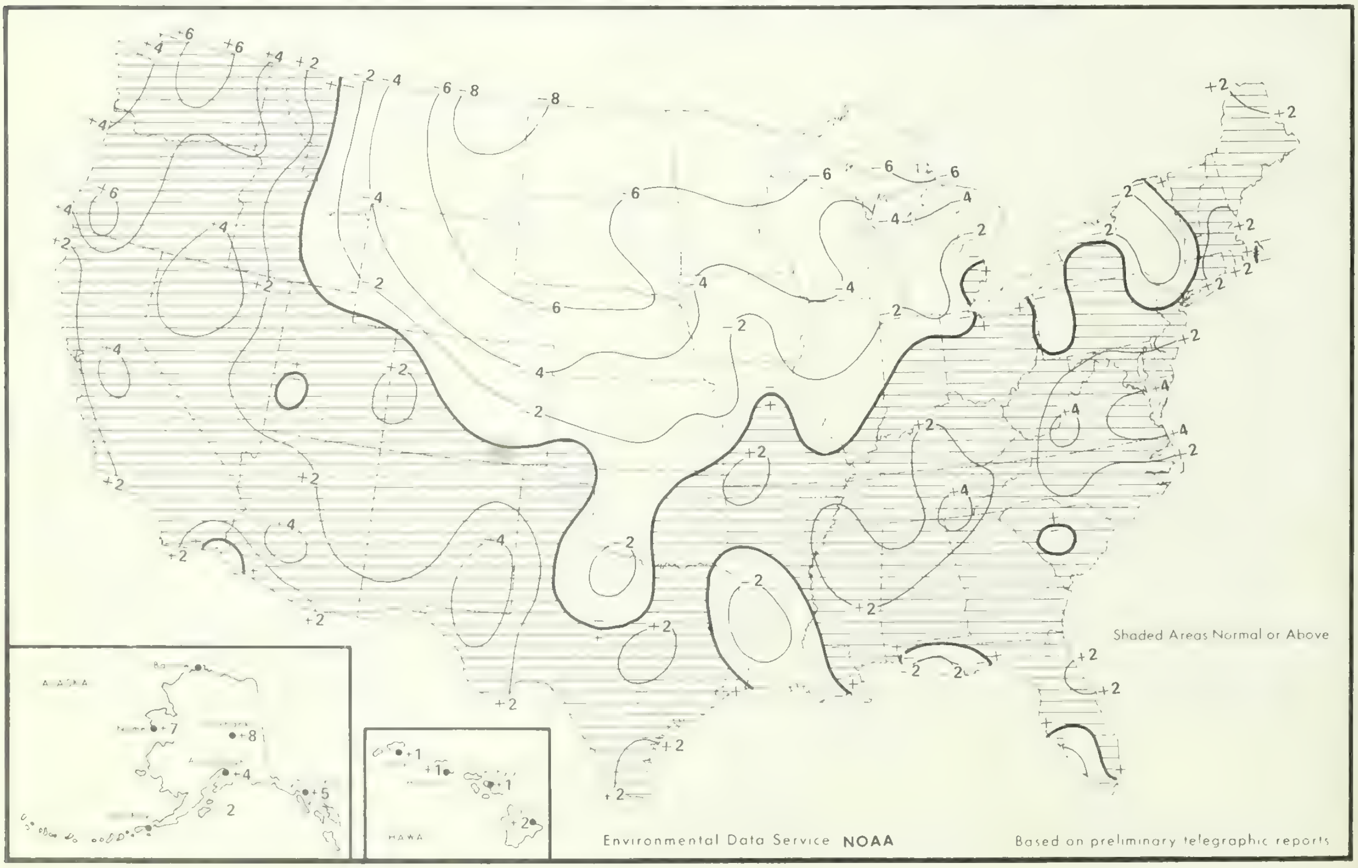
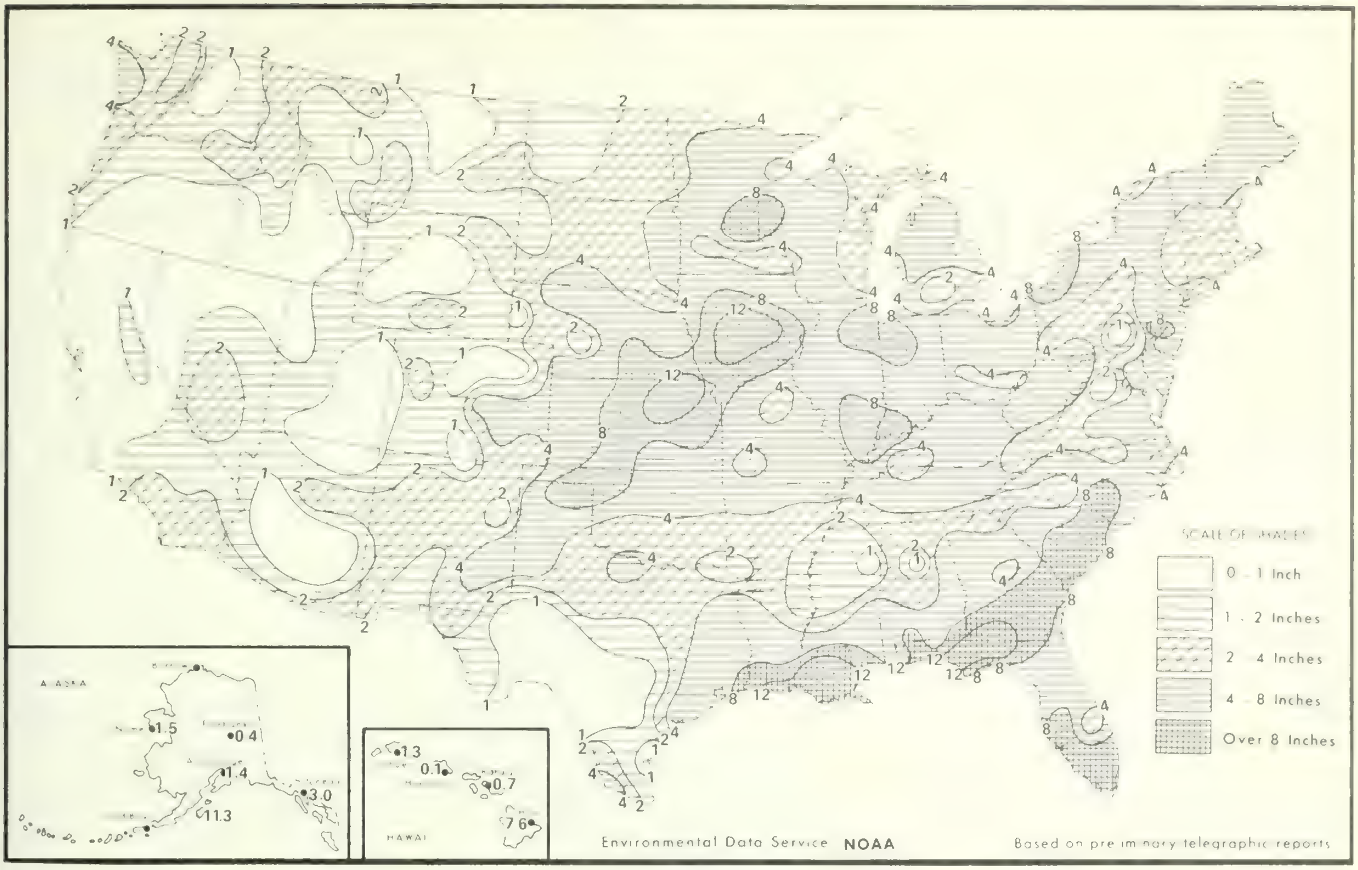


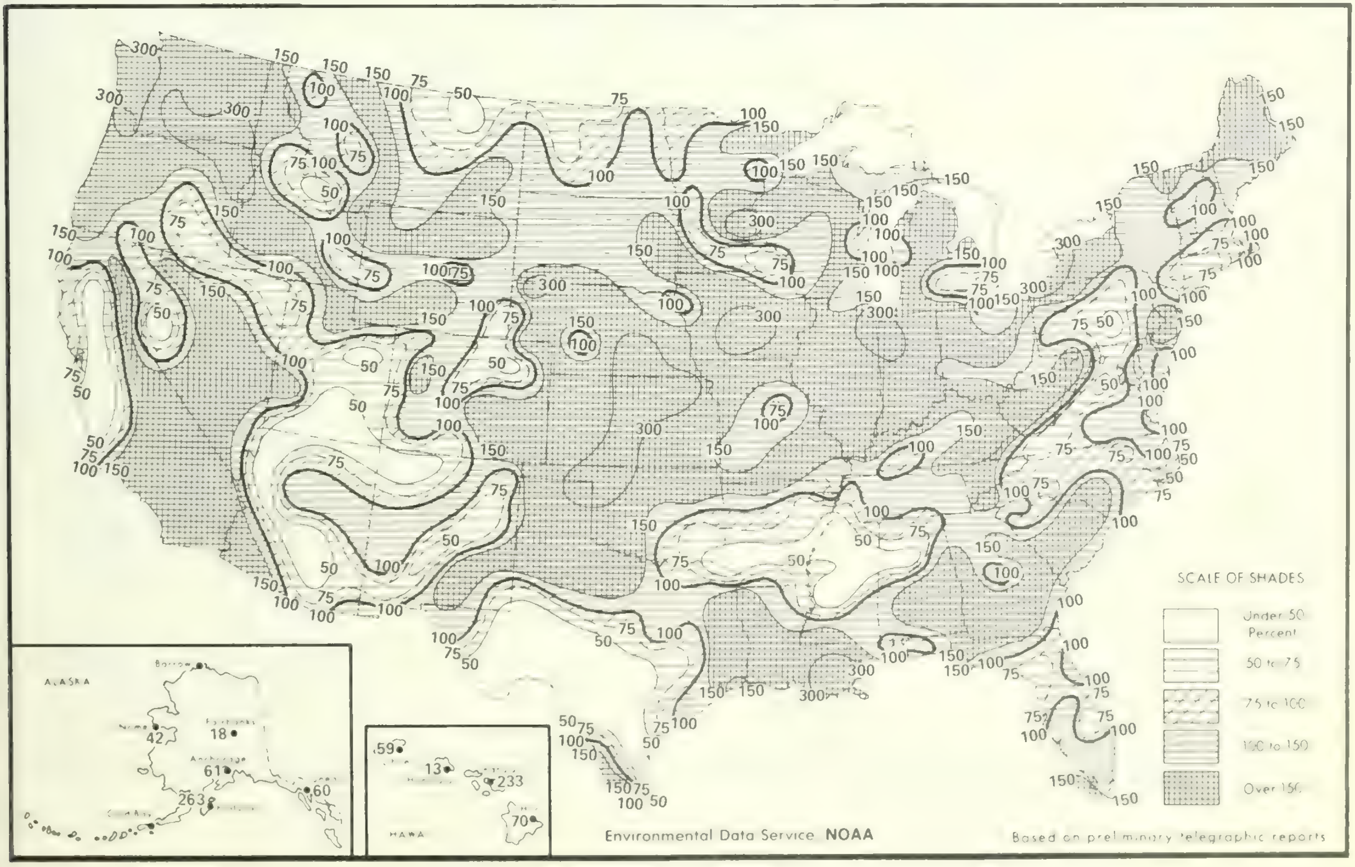
Chart II. A. Total Precipitation (Inches), August 1977



Environmental Data Service NOAA

Based on preliminary telegraphic reports

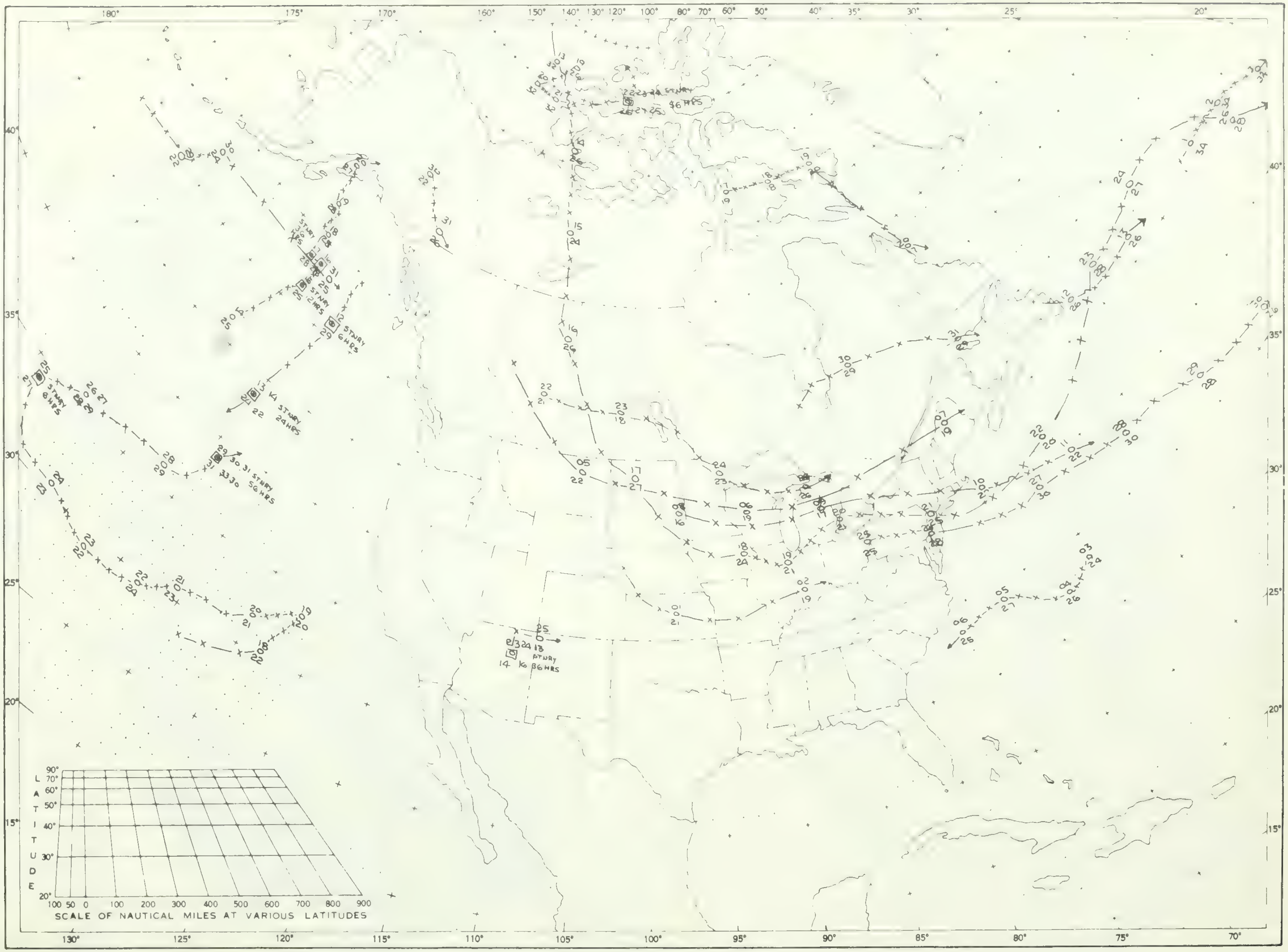
B. Percentage of Normal Precipitation, August 1977



Environmental Data Service NOAA

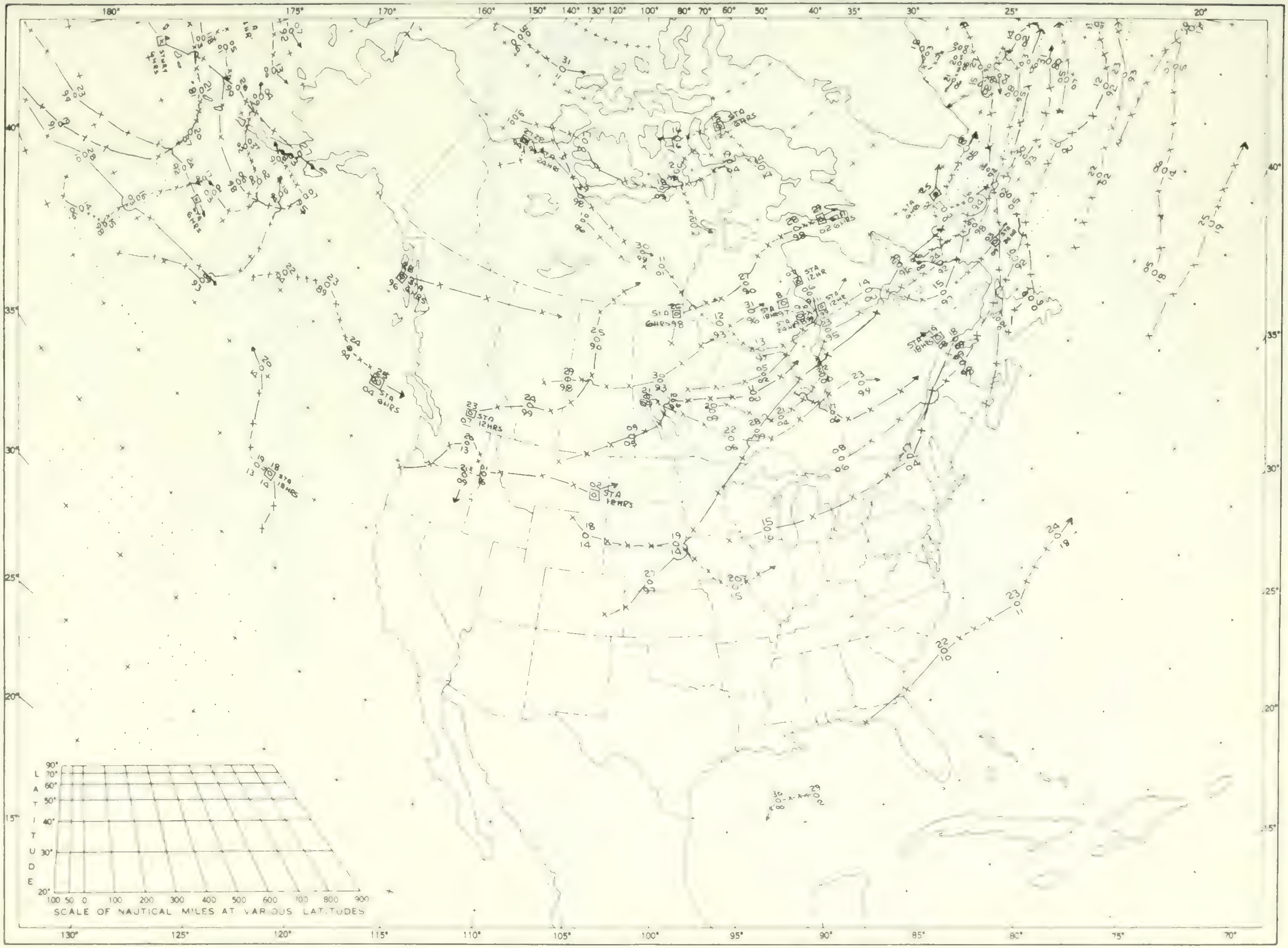
Based on preliminary telegraphic reports

Chart III. Tracks of Centers of Anticyclones at Sea Level, August 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. **X's** indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, August 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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SEPTEMBER 1977 VOLUME 28 NUMBER 9

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

SEPTEMBER 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: Early in September tropical storms brought large amounts of precipitation to some of the southern coastal areas and from the Mississippi River Delta northeastward through the Appalachians to North Carolina. A succession of Pacific cold fronts moving across the Rockies and encountering warm, moist air in the Plains accounted for many of the rainy days recorded from the Plains northeastward. Wet fields caused delays in harvesting and seeding progress.

September was a warm month in most of the Nation. Only the northern portions had near normal temperatures. The Pacific Northwest averaged 2 to 4° cooler than normal while some parts of Texas were 6 to 8° warmer than a normal September.

The month began with flooding rains inundating parts of the Midwest and Plains. Heaviest amounts drenched east central Minnesota, northwestern Wisconsin, southeastern Nebraska, and southwestern Iowa. Hurricane-related rainfall soaked southern sections of Texas, Louisiana, and Florida. All but the northwestern portion of the country was warmer than normal.

The next week was dominated by the effects of Hurricane Babe which came into southern Louisiana and then moved northeastward as a low pressure center. Heavy rain fell along its path from Louisiana to North Carolina. Amounts in excess of 8 inches fell around Baton Rouge, LA, and in parts of the southern Appalachians. Rains were light in the previously flooded parts of the Plains and Midwest, but some heavy amounts fell in the northern portions of North Dakota, Minnesota, and Wisconsin. Most of the Nation continued to bask under warmer than normal temperatures.

During the week of mid-month a series of waves formed on a cold front and moved from Kansas northeastward through New England. Warm, moist air from the Gulf of Mexico was pulled northward and caused heavy rain along the entire frontal surface. Kansas City measured over 12 inches of rain early in the week and rains in excess of 2 inches extended northeastward through Maine. Elsewhere another storm system had moved into the United States and Canada from the Pacific causing rain and showers which became heavier as the system moved into the northern Plains. The continuing wet weather caused harvesting problems in the wheat areas of northern United States and Canada. Warm weather persisted over much of the Nation except west of the Rockies where temperatures averaged 3 to 5° below normal.

The week of the 19th-25th showed continued heavy rain in the northern portion of the Nation from North Dakota to New England. Elsewhere moderate to heavy rain fell from southeastern Texas to southern Illinois. The continued influx of moisture from the Pacific into northwestern United States and southwestern Canada spread rain throughout those areas. Summer weather continued except west of the Rockies and along the northern tier of States.

The last days of September allowed some drying in the northern Plains but the central Plains, middle Mississippi Valley, and northeastward through New England continued to have moderate to heavy rain. The mid-Atlantic Coastal States had gotten very dry as significant rain tended to skirt the area. The Northwest and northern Rockies were still getting showers, and moisture moving into the Southwest caused extensive showers in Arizona and New Mexico. Southwestern Texas had some much needed moisture.

HURRICANE ANITA

29 August - 3 September, 1977

National Hurricane Center, NOAA
Miami, Florida

PRE-DEPRESSION

The origins of Anita have been traced back to a tropical wave in the Atlantic trades that moved off the African coast on 16 August. This was the 30th wave of the 1977 hurricane season inventory.

This wave traveled westward across the tropical North Atlantic at 15 kt, similar to many of the other perturbations seen at this time of the year. The wave shifted north of due west as it approached the Caribbean. Cloudiness and showers associated with this system began to spread across the Bahamas on the 25th and 26th of August and over Florida and western Cuba on the 27th.

On the 23d just northeast of the Windward Islands, the wave (a lower tropospheric system) moved under a 200 mb cold low. The associated cloudiness began to reflect this upper cyclonic circulation pattern, as seen on satellite pictures.

As the cloud system continued northwestward, the upper low moved toward the west, and by the 27th the upper low was near central Cuba while most of the cloudiness and showers were over Florida and the northern Bahamas.

For several days, disturbed weather persisted over south Florida and the northern Bahamas, producing several inches of rainfall. This weather appears to be part of the overall weather system from which Anita developed. On the 28th, the system shifted into the eastern Gulf of Mexico where the upper tropospheric circulation was mainly anticyclonic and more conducive to development of a warm-core tropical system.

DEPRESSION TO HURRICANE

On the 29th, a concentrated area of convection was located over the east-central Gulf of Mexico and a tropical depression had formed within this cloud mass by 1200 GMT. Its center was 210 n mi south southwest of New Orleans at this time. The system moved toward the west southwest for the next four days, making landfall on the morning of 2 September along the upper Mexican coast.

Anita's forward speed was about 4 kt when south of New Orleans and gradually accelerated to 10 kt just prior to landfall.

Intensification was steady. Anita attained tropical storm strength just before 0600 GMT 30 August, or about 18 hr after becoming a tropical depression. Twelve hours later at 1800 GMT , hurricane force was reached and strengthening continued until a minimum pressure of 926 mb was measured just prior to landfall. Maximum winds at this time were 150 kt. On the 29th and 30th, Anita's central pressure dropped at the rate of 0.5 mb/hr, but increased to a rate of 2.0 mb/hr on the 31st and September 1.

Although Anita's track was toward the west southwest over the four day period that it traversed the central and western Gulf of Mexico, there were several minor oscillations in the track that introduced some uncertainty in the forecast track of this storm. These small oscillations do not show up clearly in the best track because of the small scale sizes involved. In any event, the slow erratic course of the storm necessitated a hurricane watch along the Texas coast and the southwest Louisiana coast west of Vermilion Bay at 2200 GMT 30 August. This watch remained in effect until 1 September at 1000 GMT, when hurricane warnings were issued just south of Corpus Christi to Brownsville, TX, and the hurricane watch was discontinued over the Louisiana coast and the Texas coast, east of Matagorda Bay. It should be noted that the United States National Weather Service does not issue warnings for Mexico, but does provide the Mexican government with all relevant meteorological information. The hurricane was located 170 n mi east southeast of Brownsville at this time.

Soon after hurricane warnings were issued, Anita made a small shift in direction from a heading of 260 degrees, to 235 degrees, and it was now apparent that the main threat from this very dangerous hurricane would be to the extreme northeast Mexican coast.

Landfall occurred at 1100 GMT 2 September along a sparsely populated region of Mexico about 80 n mi north of Tampico (or 145 n mi south of Brownsville). The nearest population center in the path of Anita was the island village of Soto La Marina, 165 mi south of the border and 24 mi from the coast.

METEOROLOGICAL FACTORS

With a central pressure of 926 mb and 150 kt winds just before landfall, Anita was a strong "Category 4" on the Saffir/Simpson scale. Brownsville radar and satellite pictures both showed an intense hurricane with a classical textbook-type eye. In fact, a double eye-wall structure was well defined for several hours just prior to landfall. The pressure of 926 mb is the fourth lowest of record in the Gulf of Mexico, and the third lowest at landfall in this region.

On the 28th and 29th, during the formative stages of development, vertical shear over the Gulf of Mexico, in the vicinity of the developing system, was near 15 kt, with thickness values near 576 decameters. Both of these values are used operationally at the National Hurricane Center as threshold guidance values for tropical development.

Sea surface temperatures over the Gulf of Mexico were near normal, about 29°C, well above the threshold value considered necessary for tropical storm genesis. On the 25th, several days prior to Anita's formation, the NOAA ship RESEARCHER found an eddy in the sea surface temperature field in the vicinity of Anita's path. This eddy was as much as 1°C warmer than the surrounding waters. This is considered to be part of a unique data set that may provide insight into the intensification mechanism.

Finally, an experimental criterion for storm development (Shapiro, 1977) indicated favorable conditions in the Gulf of Mexico several days before Anita's arrival in this area.

DAMAGE AND CASUALTIES

The only report of casualties in connection with Anita is a UPI story that stated: Mexico City newspapers reported floods and landslides killed ten persons in the area from La Pesca inland to Ciudad Victoria.

Property damage in the U.S. was minimal and mainly limited to minor flooding of low-lying areas. The portion of the Mexican coast that was most affected by the hurricane is sparsely settled and no dollar damage estimates are available. All that can be said at this time is that extensive property losses were sustained by inhabitants of fishing villages along the coast and agricultural losses by small farming communities in Anita's path.

Rainfall amounts in the U.S. were generally small with approximately two inches reported in south Texas, and this was considered beneficial for agricultural interests. Mexican rainfall reports are conflicting, but one report of a six-hour total of 17.52 inches was received from Soto La Marina.

The threatening nature of this very intense storm resulted in considerable evacuation of coastal areas. The oil industry, alone, evacuated more than 7000 workers from offshore drilling platforms in the Gulf of Mexico because of Anita.

Nearly 10,000 people were ordered inland from southeast Louisiana coastal communities threatened by high tides. Along the upper Texas coast, as many as 35,000 were temporarily relocated to higher ground. Estimates range to 10,000 residents and vacationers fleeing inland from south Texas coastal islands. Finally, the New York Times reports that the Mexican Army had evacuated 35,000 people from villages along a 240-mile stretch of coast from Tampico north to the U.S. border.

Maximum tides along the Texas and Louisiana coasts were in the range of three to five feet above normal.

The maximum sustained winds in the U.S. were reported from South Padre Island, Texas. The Coast Guard station there reported 55 kt. An insurance company with instrumentation on the Bahia Mar condominium reported a five minute average wind of 81 kt. There was little or no wind damage in this area.

HURRICANE ANITA

Preliminary Best Track

DATE	TIME (GMT)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
8/29	1200	26.9	88.4	1012	20	Tropical Depression
	1800	27.0	88.9	1010	25	
8/30	0000	26.9	89.4	1009	30	Tropical Depression
	0600	26.8	89.8	1006	40	Tropical Storm
	1200	26.7	90.3	1003	50	
	1800	26.5	90.6	997	65	Hurricane
8/31	0000	26.4	91.0	991	70	Hurricane
	0600	26.3	91.4	988	75	
	1200	26.2	91.8	986	75	
	1800	26.1	92.3	985	80	
9/1	0000	25.9	92.8	979	80	Hurricane
	0600	25.8	93.7	972	85	
	1200	25.5	94.7	963	90	
	1800	25.2	95.5	945	110	
9/2	0000	24.6	96.2	931	140	Hurricane
	0600	24.2	97.1	926	150	
	1200	23.7	98.0	940	120	
	1800	23.1	99.2	978	70	
9/3	0000	22.5	101.0	998	40	Tropical Storm
	0600	22.0	103.0	1010	25	Tropical Depression

HURRICANE BABE

3 - 8 September, 1977

National Hurricane Center, NOAA
Miami, Florida

The formation of Babe came about as the result of the interaction between an African wave which moved into the Atlantic on August 23, reaching the Gulf of Mexico on September 2, and a cold upper low. On September 2, the upper low at 200 mb was centered just south of Apalachicola, FL. On that day, widespread convective cloudiness covered Florida and the adjacent waters of the Gulf of Mexico and the Atlantic, but there was little evidence of organization in the cloud pattern. By the 3d, the 200 mb low had moved southwestward to the middle Gulf of Mexico, and westerly surface winds at data buoy EB44 confirmed that a surface low had formed in the east central Gulf of Mexico. It was evident on the 3d that the system was essentially cold core. Convection was not concentrated near the surface low center, but rather in a band extending from the center central Gulf of Mexico north northeastward to the mouth of the Mississippi river, thence eastward just off the coasts of Mississippi, Alabama, and the Florida panhandle. Gale-force winds in this west-east band of convection led to the designation of Babe as a tropical storm, and the posting of gale warnings from Morgan City, LA to Pensacola, FL, at 1600 GMT September 3. This course of action was taken even though the storm had not yet acquired tropical structure, in order not to confuse the public at a time when the threat was immediate.

By the early morning hours of the 4th, the west-east band of strong convection had moved inland and weakened, permitting gale warnings from Morgan City to Pensacola to be discontinued. Interest then shifted southwestward into the central Gulf of Mexico, where reconnaissance reports and satellite imagery showed that the strongest winds were drawing in closer to the vortex. Meanwhile, the 200 mb low had continued to move southwestward into the southwestern Gulf of Mexico and the high-level flow over the surface system had become increasingly anticyclonic. The transition from a subtropical to a tropical storm had been completed by midday on the 4th.

During the night of the 3d-4th, the storm had been moving west southwestward about 12 kt, but large 24-hour pressure falls over the southern portions of Louisiana, Mississippi, and Alabama suggested the westward steering would diminish rapidly, and that large 24-hour pressure falls over east Texas coupled with slight rises over Florida would result in a northward drift.

A northward movement was underway by the afternoon of the 4th. At 1903 GMT, an Air Force reconnaissance aircraft reported a surface wind of 70 kt some 55 n mi southeast of the storm center. It is evident from post analysis that these winds were associated with a narrow band of strong convection well removed from the center, were transitory, and were not representative of the strength of the system. The same report showed the lowest pressure to be 1000 mb, well above that generally believed to be required for sustained winds of hurricane strength with the existing peripheral pressures.

The storm center was only 70 n mi from the Louisiana coast by 0000 GMT on the 5th. Since some slight strengthening had been indicated by reconnaissance reports and satellite pictures, it was already after dark, and the center of the storm was expected to reach the coast by daybreak, it was decided to take the course of least regret and designate Babe as a hurricane. Hurricane warnings were posted at that time from Vermilion Bay, LA, to the mouth of the Mississippi river. Post analysis does not demonstrate that hurricane strength was reached before 0600 GMT on the 5th, when Air Force reconnaissance reported a central pressure of 995 mb. Maximum sustained winds over water are not believed to have exceeded 65 kt, and it is doubtful that any hurricane-force winds occurred over land.

The strength of the system decreased rapidly after landfall, and it was reduced to a depression by mid-afternoon on the 5th. Following an initial jog to the left after the center crossed the coast, the depression moved essentially northeastward across southern Mississippi and central Alabama, then east-northeastward across northern Georgia. After reaching northwestern South Carolina on the 8th, the low pressure area became elongated to the northeast as a baroclinic development began in an old frontal zone which extended from the Atlantic into southeastern Virginia.

As stated above, no reports from land stations confirmed that Babe was of hurricane strength. Highest wind on land verified to date was the Coast Guard reading of a gust 46 kt at Grand Isle, LA. Next highest gust readings were 38 kt at the New Orleans Lake Front airport, and 34 kt at Morgan City, LA, steam plant. Hightest sustained wind reported was 40 kt at Boothville, LA. No significant wind damage was reported near the coast except for some scattered tornado damage.

A number of tornadoes occurred after the storm moved inland. On the 5th, six were reported in southeastern Louisiana and three in southern Mississippi. One or possibly more tornadoes occurred on September 6 near Tuscaloosa, AL, as the depression approached that area, and there was a report of a possible tornado in northwestern Georgia on the afternoon of the 7th.

Damage caused by Babe-spawned tornadoes consisted of an unroofed school, several unroofed houses and destroyed barns, and a number of uprooted trees.

Highest tides were up to 6 feet above mean sea level or 4 to 5 feet above normal, in southeastern Louisiana and up to 3 feet above normal as far east as

Mobile, AL. There was flooding of streets and highways in southeastern Louisiana, causing some property damage.

Flash floods created by heavy rains accompanied the remnants of Babe through the southeastern States, beginning in southeastern Louisiana and southern Mississippi on the 5th and 6th, spreading into northern and central Alabama and east Tennessee on the 6th and 7th, and into the mountains of the Carolinas and southwestern Virginia on the 7th and 8th. As much as 6 to 7 inches of rain fell during a 24-hour period in the area of flash flooding mountains of east Tennessee and the Carolina mountains, and up to 4 inches elsewhere in the area of flash flooding.

Preliminary estimates of damage caused by Babe are about $10 million, mostly in southern Louisiana. Most of the property damage was the result of coastal flooding. There was some damage to crops, principally sugarcane, in southern Louisiana caused by heavy rain and wind. No serious injuries or fatalities were reported as a result of the storm.

State and local civil defense and law enforcement officials report that 275,000 people evacuated the low-lying areas of coastal Louisiana.

HURRICANE BABE

Preliminary Report

DATE	TIME (GMT)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
9/3	0600	26.8	86.3	1007	25	Subtropical Depression
	1200	27.4	87.3			
	1800	27.6	88.5	1005	35	Subtropical Storm
9/4	0000	27.4	89.7			Subtropical Storm
	0600	26.6	90.5			
	1200	26.8	91.7	1003		
	1800	27.5	91.7	1000	50	Tropical Storm
9/5	0000	28.0	91.6			Tropical Storm
	0600	28.7	91.4	995	65	Hurricane
	1200	29.5	91.2			
	1800	29.8	91.6	1000	50	Tropical Storm
9/6	0000	30.2	91.3		30	Tropical Depression
	0600	30.6	90.7		--	
	1200	31.1	90.0		--	
	1800	31.7	89.4	1004		
9/7	0000	32.4	88.8			Tropical Depression
	0600	33.2	88.0			
	1200	33.8	87.1	1008		
	1800	34.3	85.8			
9/8	0000	34.5	84.8	1010		Tropical Depression
	0600	34.6	83.9			
	1200	34.7	82.6			
	1800	34.8	81.3			
9/9	0000	34.8	80.2	1012		Tropical Depression

HURRICANE CLARA

5 - 12 September, 1977

National Hurricane Center, NOAA
Miami, Florida

Hurricane Clara had an unusual origin. The convective cloud mass from which it developed was a spiral band containing gale force winds which was associated with the initial development of Babe. As the band moved inland into southeastern Georgia, a weak circulation developed at middle tropospheric levels late on September 4th. By 1200 GMT on the 5th, Charleston, SC, had a 24 hour pressure fall of 4 mb and a west surface wind, indicating the formation of a weak depression just north of the city. The depression drifted east northeastward during the next 36 hours, slowly becoming better organized.

The depression was located a short distance south of Cape Hatteras on the evening of the 6th when it accelerated towards the east northeast and began strengthening. Satellite pictures and ship reports at 1200 GMT on the 7th located the depression about 75 miles southeast of Cape Hatteras, NC with winds of 30 kt. Air Force reconnaissance reports late that afternoon confirmed a continued strengthening trend. Clara reached storm strength by 0000 GMT on the 8th when the center was about 200 miles east of Cape Hatteras, and the central pressure continued dropping about 1 mb per hour for the next 12 hours. The lowest sea level pressure of 993 mb and maximum sustained winds of 65 kt were reached on the morning of the 8th. The central pressure began to rise as the trough of low pressure which had accelerated Clara left it behind. However, reconnaissance aircraft reported hurricane force winds more than 12 hours after the lowest pressure was reached.

Strong high level west and northwest winds over the center continued to weaken it as the convection sheared off towards the east. Clara turned southeast and made a tight loop over a period of 36 hours before accelerating towards the northeast and becoming absorbed in an extratropical low pressure system several hundred miles northeast of Bermuda on the 11th.

Clara briefly threatened Bermuda on the 10th while a minimal tropical storm, but no gales actually affected the island. No casualties nor damages have been reported in connection with Clara.

HURRICANE CLARA

Preliminary Best Track

DATE	TIME (GMT)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
9/5	1200	32.8	80.0	1015		Tropical Depression
	1800	33.2	79.0			
9/6	0000	33.6	78.2			Tropical Depression
	0600	33.8	77.6			
	1200	34.0	77.0			
	1800	34.2	76.4		25	
9/7	0000	34.4	75.8	1010		Tropical Depression
	0600	34.6	75.0			
	1200	34.7	74.3		30	
	1800	34.9	73.0			
9/8	0000	35.1	71.7	1006	35	Tropical Storm
	0600	35.3	69.7	1001	45	
	1200	35.5	67.7	993	65	Hurricane
	1800	35.6	66.2	994		
9/9	0000	35.5	64.6	998		Hurricane
	0600	34.8	63.5	1000	60	Tropical Storm
	1200	34.0	62.8		55	
	1800	33.4	62.8	1001	50	
9/10	0000	32.8	63.2		45	Tropical Storm
	0600	32.8	63.6		40	
	1200	33.0	63.8		45	
	1800	33.5	63.7			
9/11	0000	34.2	63.2			Tropical Storm
	0600	34.8	62.5			
	1200	36.0	61.5			Extratropical
	1800	38.0	59.8			
9/12	0000	40.5	57.5			Extratropical

HURRICANE DOROTHY

26 - 30 September, 1977

National Hurricane Center, NOAA
Miami, Florida

Hurricane Dorothy emerged from a tropical disturbance that moved off the northwestern African coast on September 15. The system moved westward 15 to 20 kt and began to show better cloud organization on September 20. As it approached the Lesser Antilles reconnaissance aircraft confirmed it was a strong tropical wave. The wave moved through the northern Windward and southern Leeward Islands on the 21st accompanied by heavy rains and strong gusty winds. Gusts of 60 kt were reported at more exposed locations on the islands of Guadeloupe and Martinique. Several islands reported rainfall amounts of 5 to 8 inches with flash flooding.

The sudden development of heavy showers and thunderstorms in the Lesser Antilles was produced by the tropical wave moving under a strong high level divergent flow associated with the east side of an upper tropospheric low pressure trough located over the eastern Caribbean. Typically, as the wave moved further westward and directly under the trough, most convection ceased and the wave weakened significantly as it passed across Hispaniola on the 23d.

Prior to arrival of the tropical wave into the eastern Carribbean a large ridge of high pressure had persisted for several days over the Gulf of Mexico and the western Caribbean with a weak stationary frontal trough off the southeastern United States coast. Under this pattern the disturbed weather area associated with the wave began moving northward around 10 kt through the eastern Bahamas during the 24th-25th.

On the afternoon of the 25th a weak low pressure system began developing in the disturbed weather area north of the Bahamas and gradually organized into the 5th tropical depression of the season on the 26th. The depression began moving northeastward 10 to 15 kt and by the morning of the 27th reconnaissance aircraft indicated that it had strengthened to a tropical storm with winds of 45 kt and lowest pressure 1000 mb.

Dorothy moved toward the east northeast around 15 kt and attained hurricane strength the morning of the 28th. Thereafter, the hurricane turned toward the northeast and accelerated to 20 kt with approach of a major trough over the northeastern United States and southeastern Canada. Dorothy gradually lost tropical characteristics as it moved rapidly northeastward just east of Cape Race, Newfoundland, on the evening of the 29th and was absorbed by a frontal low pressure system over the cold water of the north Atlantic on September 30th.

Dorothy attained maximum strength on the evening of September 28th with highest winds and lowest pressure estimated 75 kt and 980 mb, respectively.

Dorothy was mainly a threat to shipping. Both Bermuda and eastern Newfoundland were on the weak side of the storm with no damage reported. No reports have been received from the southern Leeward or northern Windward islands concerning damage from flash floods and strong winds.

HURRICANE DOROTHY

Preliminary Best Track

DATE	TIME (GM)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
9/26	1800	28.5	71.5	1010	20	Tropical Depression
9/27	0000	29.5	69.8	1009	20	Tropical Depression
	0600	30.2	67.9	1005	30	
	1200	30.9	65.8	1002	40	Tropical Storm
	1800	31.9	63.6	1000	45	
9/28	0000	33.2	61.8	996	50	Tropical Storm
	0600	34.4	60.8	992	60	
	1200	35.5	59.7	988	65	Hurricane
	1800	37.0	58.8	984	70	
9/29	0000	38.3	57.0	980	75	Hurricane
	0600	40.0	55.5	984	70	
	1200	42.0	54.0	988	65	
	1800	44.5	53.0	990	60	Extratropical
9/30	0000	47.0	51.0	995	50	Extratropical
	0600	49.5	48.5	1000	45	

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			*°F*			*In.*		*In.*
Alabama	6 Stations	98	3	Valley Head	19	29+	Falkville 1 E	12.82	Troy	2.93
Alaska	Haines	82	4	Umiat	[illegible]	23	Pelican	21.25	Barter Island WSO AP	.17
Arizona	2 Stations	116	8+	2 Stations	24	21	Happy Jack Ranger Station	5.08	2 Stations	.00
Arkansas	4 Stations	100	4	Mammoth Spring	16	21	Damascus 2 NNE	14.56	Monticello 3 SW	1.16
California	2 Stations	116	8+	White Mountain 2	11	24	Pit River Powerhouse 5	16.90	143 Stations	00
Colorado	2 Stations	103	8	Hermit 7 ESE	16	22	Ames	2.94	Brandon	.00
Connecticut	Middletown 4 W	94	3	Coventry	31	12	West Hartford	10.97	Bulls Bridge Dam	5.58
Delaware	2 Stations	95	2	3 Stations	43	30+	Dover	6.50	Wilmington WSO AP	1.29
Florida	Inverness	101	11	2 Stations	58	29	Loxahatchee	15.93	Live Oak	2.65
Georgia	La Fayette	98	4	2 Stations	44	29	La Fayette	18.78	Millhaven-Wade 2 SE	1.31
Hawaii	Koloa Ln (Mak) 940.1,Kauai	96	29	Mauna Loa Slope Obs, HI	34	25	Saddle Road 1 84, Hawaii	11.48	20 Stations	.00
Idaho	Glenns Ferry	100	7	Grouse	17	23	Elk River 1 S	4 60	Arco 3 SW	.09
Illinois	Waterloo	97	2	Mount Carroll	33	28	Morris	11.03	Nashville 4 NE	1.51
Indiana	Crane Naval Depot	98	3	Angola	37	29	Elkhart	12.18	Scottsburg	.94
Iowa	Le Mars	93	6	Elkader 5 SSW	35	28	Corning	9.74	Kanawha	2.48
Kansas	Saint Francis	103	8	Atwood	33	24	Effingham 1 N	15 02	Cedar Bluff Dam	.05
Kentucky	2 Stations	98	2+	2 Stations	41	30	Hickman 1 E	9 53	Grayson 5 S	.87
Louisiana	Winnsboro	98	2	Ashland 2 S	55	21+	Pine Grove Fire Tower	17.95	Shreveport WSO AP	.53
Maine	Saco	91	2	2 Stations	25	25+	Bingham Wyman Dam	7.34	Vanceboro 2	3.49
Maryland	2 Stations	98	2	2 Stations	37	12	Vienna	10.83	Wheaton Regional Park	.29
Massachusetts	Chester 2	94	1	Chester 2	28	12	Great Barrington AP	9.07	Birch Hill Dam	3.96
Michigan	Monroe	91	1	2 Stations	29	11	Yale 1 NNE	9 80	Scottville 1 NE	2.05
Minnesota	Browns Valley	93	9	Tower 3 S	27	12	Grand Portage Ranger Stn.	12.21	Willmar St. Hospital	1.90
Mississippi	Fulton 3 W	101	1	Iuka	51	11	Ackerman	15.22	Vicksburg Military Park	1.66
Missouri	Festus 2 NW	97	1	Berryman 6 NW	38	11	Diamond	12.74	Lakeside	2 66
Montana	2 Stations	94	8	Wisdom	17	9	Carlyle 12 NW	4.25	Bridger	.07
Nebraska	2 Stations	102	9	Agate 3 E	23	24	Grand Island WSO AP	7.77	Sidney 6 NNW	.00
Nevada	Sunrise Manr Las Vegas	112	7	Mountain City Ranger Stn.	13	23	Snowball Ranch	1 31	7 Stations	.00
New Hampshire	Greenland	93	2	Mount Washington	23	25	Mount Washington	10.64	Newport	4.11
New Jersey	2 Stations	94	3	3 Stations	35	13+	Ringwood	8.20	Bridgeton 3 NE	1.49
New Mexico	Jal	104	29	Eagle Nest	21	22	Des Moines	3 41	White sands Natl Monument	.04
New York	New York Laurel Hill	96	2	Old Forge	28	12	Colden 1 N	14.61	Montauk	4.15
North Carolina	Concord	98	1	Transou	34	29	Lake Toxaway 2 SW	22.54	Elizabeth City	1.91
North Dakota	2 Stations	91	9	Towner 2 NE	24	30+	Moffit 3 SE	7.91	Grenora	1.87
Ohio	Hamilton-Fairfield	96	1	Fredericktown 4 S	35	30+	Ottawa NWR	7.48	Pleasant Hill	1.20
Oklahoma	Chattanooga 3 NE	107	30	Kenton	40	19	Kansas 1 ESE	12.03	Hobart FAA AP	.06
Oregon	Vale	97	8	Brothers	19	22	Tillamook 13 ENE	9 25	Arlington	.30
Pennsylvania	Phoenixville 1 E	98	2	Austinburg 2 W	30	29+	Bradford 4 W Reservoir 1	10.77	Hanover	1.36
Puerto Rico	Magueyes Island	96	20+	Adjuntas Substation	56	30	Pico Del Este	15.73	Quebradillas	1.73
Rhode Island	Providence WSO AP	90	2	Kingston	35	30	North Foster 1 E	7.26	Block Island WSO AP	4.10
South Carolina	Parr	97	7	Saluda	42	29	Caesars Head	15.58	Lake City 1 SE	1.25
South Dakota	Cedar Butte	105	8	Deerfield 4 NW	20	22	Canistota 2 N	7.45	Porcupine 16 NW	1.34
Tennessee	Waynesboro	99	1	2 Stations	42	30+	Athens	14.42	Bristol WSO AP	2.36
Texas	3 Stations	110	27	2 Stations	41	25+	Lytle	12.60	28 Stations	.00
Utah	3 Stations	103	7+	2 Stations	18	30+	Cottonwood Weir	3.39	4 Stations	.05
Vermont	Morrisville 2	89	2	2 Stations	29	12	Mount Mansfield	12.69	Montpelier FAA AP	4.58
Virginia	2 Stations	99	3+	Burkes Garden	33	30	Ashland	6.58	Washington Natl WSO AP	.32
Virgin Islands	Christiansted Fort	94	4	Catherineburg	67	21	Catherineburg	8.71	Granard	3.08
Washington	[illegible] FAA AP	91	13	Chesaw 4 NNW	21	26	Rainier Paradise R S	10.29	2 Stations	.59
West Virginia	Moorefield 2 SSE	96	1	Canaan Valley	28	12	Alderson	6.50	Charleston WSO AP	1 14
Wisconsin	2 Stations	87	4	Jump River 5 E	28	21	Gordon	7.21	Charmany University Farm	2.25
Wyoming	2 Stations	98	6	Bondurant 3 NW	13	18	Alva 5 SE	2.81	4 Stations	00

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1977

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	993.9	1016.2	28.7	19.8	24.3	1.0	33.9	1	14.4	22	3	0	19.4	76	265	172	128	14	9	0	0	0.6	13	14.8	SW	14	6	8	16	6.8	48
HUNTSVILLE	190	993.2	1016.0	28.1	18.1	23.1	0.4	34.4	3	13.3	22+	4	0	18.9	80	229	146	77	14	10	0	0	1.1	12	12.5	24	14	5	10	15	6.8	
MOBILE	64	1007.5	1015.3	31.4	22.9	27.2	1.9	34.4	26	20.6	29+	10	0	21.7	76	244	77	56	14	12	0	0	0.7	14	10.3	34	19+	4	16	10	6.3	
MONTGOMERY	59	1008.8	1016.2	31.4	21.2	26.3	1.9	33.9	13+	18.3	29+	13	0	20.0	74	148	36	53	13	14	0	0	0.8	14	13.0	S	15	4	11	15	6.6	57
ALASKA												B																				
ANCHORAGE	35	1004.4	1009.4	14.4	6.3	10.4	1.4	20.6	5	-1.1	30	0	1	6.1	73	104	43	22	17	0	25	T	1.4	17	9.4	15	28+	2	7	21	8.1	36
ANNETTE	34			15.2	8.6	11.9	-0.3	19.4	2	5.0	25	0	0			144	-110	33	16		0	0			11.2	15	22	4	7	19	7.7	
BARROW	9	1009.1	1009.6	3.9	0.1	2.1	3.0	11.1	1	-4.4	23	0	15	0.0	89	20	5	5	11	0	20	T	0.5	13	11.2	2	6	0	4	26	9.1	
BARTER ISLAND	12	1008.1	1009.9	4.3	-0.2	2.1	2.3	12.2	2	-7.8	30	0	20	0.6	91	4	-18	2	7	0	30	25	0.7	11	13.0	24	26	1	6	23	8.5	
BETHEL	38	1005.1	1010.9	11.2	6.0	8.6	1.4	17.8	2+	0.0	29+	0	2	4.4	78	79	18	17	20	0	T	T	3.8	23	14.8	16	13	0	4	26	9.0	
BETTLES	196	985.1		10.0	1.9	6.0	1.6	18.3	3	-5.0	30+	0	9			93	47	17	17	0	T	T	0.1	35								
BIG DELTA	386			12.4	3.3	7.9	1.4	19.4	2	-1.7	23	0	7			43	12	8	11		152	102										
COLD BAY	29	1012.9	1016.7	13.4	6.7	10.1	1.6	17.2	14+	1.7	23	0	0	6.7	82	67	-34	19	20	0	0	0	2.7	27	16.1	27	17	0	2	28	9.1	
FAIRBANKS	133	992.2	1009.3	11.3	3.8	7.6	0.7	20.0	2	-1.7	30	0	5	4.4	81	64	36	25	17	0	25	25	0.5	28	9.8	25	28	2	4	24	8.6	
GULKANA	479			13.3	1.8	7.6	1.1	21.1	1	-5.0	30	1	11			33	-11	10	11		T	T										
HOMER	19	1006.8		13.4	4.9	9.2		16.1	5+	-1.7	30	0	3			43	-29	12	15	0	5	T	1.5	24	10.3	25	28+	3	10	17	7.1	
JUNEAU	4	1012.2	1013.0	14.0	6.6	10.3	0.7	20.6	3	0.0	27+	0	2	7.8	87	141	-34	38	17	0	0	0	2.6	11	12.5	12	22	6	4	20	7.4	44
KING SALMON	15	1009.5	1011.6	12.0	4.6	8.3	-0.2	20.0	4+	-5.6	30	0	4	5.0	79	66	-12	17	14	0	T	0	2.5	25	12.5	26	7	2	5	23	8.3	
KODIAK	4	1007.1	1011.5	14.3	5.5	9.9	-0.1	18.9	3	-0.6	30	0	2	5.0	73	30	-125	9	8	0	10	0	2.4	28	16.5	30	29	8	11	11	6.0	
KOTZEBUE	3	1006.4	1006.8	8.9	4.3	6.6	1.6	15.6	1	-3.9	22	0	5	3.9	82	109	73	40	18	1	5	0	0.8	9	18.3	32	28	3	2	25	8.3	
MC GRATH	105	996.6	1009.4	11.6	4.3	7.9	1.4	22.2	1	-3.9	30	2	4	4.4	82	120	66	30	18	0	15	T	1.2	21	9.4	23	25+	3	3	24	8.4	
NOME	4	1005.4	1006.2	10.2	4.2	7.2	1.6	16.7	1	-3.3	29	0	5	4.4	81	134	73	27	23	0	5	T	1.6	23	15.6	14	23	2	7	21	8.1	38
ST. PAUL ISLAND	7			11.0	6.6	8.8	1.9	15.0	2	-0.6	21	0	1			16	-61	4	9	0	0	0			19.2	25	15	1	5	24	8.6	
TALKEETNA	105	996.3		12.7	3.3	8.1	0.2	21.7	4	-4.4	30	2	6			207	92	31	17	0	T	T	0.1	22	9.4	19	11					
UNALAKLEET	5			10.4	2.1	6.3		19.4	1	-2.8	30+	0	10			167		26	23		T	0			15.6	36	28	1	1	28	9.2	
VALDEZ	11	1009.5	1010.4	13.4	4.7	9.1	1.0	20.0	2	0.6	26	0	0	6.1	85	318	122	54	18	1	0	0	0.4	25	15.6	6	23	6	5	19	7.2	
YAKUTAT	9	1010.2	1011.4	14.3	4.3	9.3	0.2	21.7	4	-1.7	26	2	4	7.8	88	517	124	140	18	1	0	0	1.1	8	13.9	12	21	5	7	18	7.0	
ARIZONA																																
FLAGSTAFF	2135	790.0	1014.8	26.6	6.7	15.7	1.5	31.7	7	-1.1	21	0	2	5.6	57	39	-4	16	6	6	0	0	2.2	21	11.2	SW	26+	15	8	7	4.2	76
PHOENIX	339	971.9	1009.6	37.2	24.5	30.9	2.1	42.8	7+	19.4	18	27	0	12.2	35	13	-4	13	2	4	0	0	0.8	12	21.0Y	E	9	20	6	4	3.0	87
TUCSON	788	924.5	1010.1	34.1	21.4	27.8	1.1	38.9	3	17.8	21+	23	0	12.2	43	36	1	27	7	5	0	0	1.1	18	13.0	NW	11+	16	7	7	3.7	85
WINSLOW	1492	852.4	1013.4	29.4	13.4	21.4	0.6	35.6	8	6.1	22+	8	0	10.0	55	50	28	29	6	7	0	0	2.1	19	13.4	18	22	14	8	8	4.5	
YUMA	59	1001.7	1009.0	36.9	23.2	30.1	-0.5	42.8	7+	17.2	21	29	0	13.9	42	12	6	10	3	0	0	0	1.0	21	9.8	S	10	24	5	1	2.0	95
ARKANSAS																																
FORT SMITH	136	997.3	1013.5	30.7	19.4	25.1	1.7	35.0	26	12.2	20	13	0	18.9	76	118	34	49	10	10	0	0	1.2	10	10.3	E	5	6	16	8	6.1	54
LITTLE ROCK	78	1004.7	1014.1	30.6	19.8	25.2	2.2	36.1	2	13.9	21	8	0	18.9	73	162	72	50	9	7	0	0	0.7	14	9.8	N	27	3	16	11	6.4	86
CALIFORNIA																																
BAKERSFIELD	145	994.9	1012.2	32.4	19.6	26.1	1.3	43.3	7	15.6	15	12	0	11.7	45	0	-2	0	0	0	0	0	1.8	33	8.0	33	29	23	6	1	2.3	
BISHOP	1252	872.0		30.1	8.4	19.3	-0.4	36.7	7+	2.2	17	10	0			T	-3	T	0		0	0			16.5Y		29+	21	7	2	2.0	
BLUE CANYON	1609	838.5	1012.1	19.7	9.7	14.7	-2.4	29.4	8	2.2	16	0	0	1.7	48	33	20	18	5		0	0	1.7	19	9.8	17	19					
EUREKA U	13			16.9	10.9	13.9	0.3	23.9	18	7.8	30	0	0			85	69	39	9		0	0			13.4	S	16	7	6	17	6.8	42
FRESNO	100	1000.7	1012.4	31.6	15.1	23.3	0.1	40.0	7+	10.6	23	11	0	11.1	50	T	-2	T	0	0	0	0	1.6	29	9.4	32	14	22	6	2	2.1	91
LONG BEACH	8	1012.2	1013.5	27.2	16.8	22.0	-0.1	37.8	7	13.3	24+	3	0	15.6	74	1	-2	1	1	0	0	0	1.4	26	7.6	28	27	13	13	4	3.9	
LOS ANGELES	30	1009.8	1013.4	23.6	17.1	20.4	0.0	26.7	25	14.4	17+	0	0	16.1	81	T	-2	T	0	0	0	0	2.6	25	12.5Y	W	16	13	12	5	4.2	
LOS ANGELES U	82			26.8	17.4	22.1	-0.5	35.0	7	14.4	18+	3	0			0	-4	0	0		0	0			6.3	SW	19+	15	13	2	3.9	94
MT SHASTA R	1077	892.0	1014.9	22.2	5.9	14.1	-2.2	32.8	6+	0.6	30	4	0	3.9	57	76	59	31	9		0	0	0.6	10	6.3	29	22					
OAKLAND	2	1013.9	1014.2	22.4	14.9	18.7	0.7	28.9	6	12.2	22	0	0	13.3	75	14	10	12	5	0	0	0	2.2	26	9.8	18	19	11	13	6	4.9	
RED BLUFF	104	1000.0	1012.3	30.1	15.9	23.0	-1.1	40.0	8+	11.7	23	12	0	11.1	54	32	24	15	6	1	0	0	1.5	18	11.6	S	28+	17	2	11	4.0	86
SACRAMENTO	5	1011.9	1012.6	28.0	12.9	20.4	-1.5	38.3	8	10.0	22	6	0	11.7	66	19	14	14	3	0	0	0	2.4	20	10.7	SW	13	20	7	3	2.8	83
SANDBERG R	1377	862.5	1013.7	23.8	12.6	18.2	-2.3	32.8	7	5.6	17	3	0	3.9	47	0	-5	0	0		0	0	1.8	24	13.4	34	20					
SAN DIEGO	4	1012.5	1013.4	24.8	19.8	22.3	1.3	29.4	7	16.7	18	0	0	17.2	74	T	-3	T	0	0	0	0	2.6	30	8.9	NW	27	13	15	2	3.6	78
SAN FRANCISCO	2	1013.5	1014.1	22.0	13.0	17.5	-0.3	26.7	6	10.6	30+	0	0	10.0	66	12	8	12	2	0	0	0	3.0	27	11.2	30	7	12	12	6	4.4	
SAN FRANCISCO U	16			19.7	13.6	16.7	-0.1	25.0	4	11.7	9+	0	0			22	18	18	4			0										
SANTA MARIA	72			24.1	11.2	17.7	0.7	29.4	21	7.8	30	0	0			1	-2	T	2		0	0						18	8	4	3.3	
STOCKTON	7	1012.2	1013.1	30.6	14.7	22.7	0.4	40.6	6	11.1	30	9	0	12.2	60	14	10	13	2	0	0	0	2.3	31	9.4	29	29+	18	7	5	3.2	
COLORADO																																
ALAMOSA	2297	774.5		23.6	3.8	13.7	0.8	30.6	8	-2.8	22	0	5			29	11	8	8		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	°C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	812.1	1012.1	25.8	9.7	17.8	1.7	33.3	8	3.3	24	1	0	2.2	40	11	-17	6	3	3	0	0	0.5	11	12.5	35	30	16	8	6	4.2	
DENVER	1610	835.8	1010.0	27.9	10.4	19.2	2.1	33.9	8+	4.4	18	5	0	1.1	34	3	-26	3	2	2	0	0	0.8	20	20.1	NW	23	14	10	6	4.5	81
GRAND JUNCTION	1476	851.7	1011.3	29.4	13.1	21.2	1.7	36.7	8+	6.1	24	9	0	2.8	34	13	-8	9	7	5	0	0	1.1	13	16.1	W	14	13	13	4	3.7	80
PUEBLO	1428	854.7	1010.9	29.9	9.5	19.7	0.7	37.2	8	0.6	24	8	0	5.6	45	2	-18	2	2	1	0	0	0.6	30	17.9	NW	23+	14	10	6	4.0	89
CONNECTICUT																																
BRIDGEPORT	2	1016.3	1016.8	23.4	16.3	19.9	0.7	31.1	3+	10.0	30	0	0	15.0	75	184	111	62	12	2	0	0	0.5	25	13.0	6	20	3	12	15	7.1	
HARTFORD	52	1010.2	1016.6	23.0	12.5	17.8	0.7	33.9	2	5.0	30+	1	0	13.3	80	208	117	50	17	7	0	0	0.7	30	14.8	W	2	5	11	14	6.9	49
DELAWARE																																
WILMINGTON	23	1013.9	1016.8	25.3	16.2	20.7	0.8	32.2	2	7.2	12	1	0	15.0	72	33	-54	10	12	4	0	0	0.4	22	9.4	6	25	5	7	18	7.2	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1005.1	1016.8	27.3	14.8	21.1	1.7	35.0	2	6.1	12	3	0	15.6	73	44	-39	15	10	5	0	0	0.4	21	10.3	4	6	6	9	15	6.7	
WASHINGTON NATIONAL	3	1014.6	1016.8	27.5	19.1	23.3	1.8	34.4	2	12.8	12	4	0	17.2	71	8	-70	3	6	2	0	0	0.7	23	11.6	NW	14	5	8	17	6.8	61
FLORIDA																																
APALACHICOLA U	6	1015.2	1015.8	30.7	22.9	26.8	0.9	32.8	11+	20.0	26	2	0	23.3	84	104	-125	40	13	13	0	0	0.9	15	10.3	SE	3	7	9	14	6.4	74
DAYTONA BEACH	9	1014.9	1016.4	31.1	23.1	27.1	0.7	35.0	8	20.6	27	5	0	23.3	82	166	-14	53	11	10	0	0	1.2	12	9.4	18	17+	3	15	12	6.3	
FORT MYERS	5	1015.6	1015.8	31.3	23.9	27.6	0.1	33.3	10	22.2	30+	14	0	23.3	81	234	13	78	12	13	0	0	1.0	10	9.4	15	26	5	17	8	5.8	
JACKSONVILLE	8	1015.6	1016.6	32.2	21.3	26.7	1.1	34.4	10+	17.8	29	19	0	22.2	82	189	-10	73	12	16	0	0	0.6	14	14.8	W	8	5	15	10	6.5	57
KEY WEST	1	1014.6	1015.2	30.8	26.2	28.5	0.1	31.7	30+	23.3	1	0	0	23.3	75	94	-92	37	12	14	0	0	2.7	13	12.1	17	1	5	12	13	6.4	86
LAKELAND U	65			32.9	22.9	27.9	1.2	35.6	14+	21.1	4	23	0			217	63	67	17		0	0						4	20	6	5.7	54
MIAMI	2	1015.9	1016.2	30.9	25.7	28.3	0.7	33.3	12+	23.9	3+	7	0	23.9	78	179	-43	60	13	9	0	0	1.8	10	10.3	12	2	2	12	16	7.1	68
ORLANDO/MC COY AFB	29	1012.5	1016.2	33.1	23.1	28.1	1.4	36.1	11	21.1	27	26	0	22.8	79	179	-4	90	11	12	0	0	0.9	12	10.3	12	26	6	15	9	6.1	
PENSACOLA	34	1011.2	1015.7	30.7	22.8	26.7	1.0	33.3	13+	20.0	22	7	0	22.2	81	122	-85	43	14	12	0	0	1.0	16	9.8	18	6	7	14	9	6.0	
TALLAHASSEE	17	1013.9	1016.3	31.4	20.8	26.2	0.6	33.3	11+	15.0	29	14	0	22.8	88	134	-35	38	15	16	0	0	0.5	8	14.8	11	3	6	13	11	6.5	
TAMPA	6	1015.9	1016.1	32.1	23.7	27.9	0.8	34.4	11	20.6	30	21	0	22.8	78	109	-53	35	12	14	0	0	0.4	10	11.2	17	12	4	17	9	6.4	55
WEST PALM BEACH	5	1015.2	1016.0	31.1	23.3	27.2	-0.3	32.8	28	21.1	3	8	0	22.8	81	336	85	126	19	10	0	0	1.8	10	10.3	29	6+	2	18	10	6.6	
GEORGIA																																
ATHENS	244	987.8	1016.3	28.1	19.0	23.6	1.0	31.1	15+	11.7	29	0	0	19.4	84	85	-9	26	11	6	0	0	0.4	12	9.4	28	27	6	7	17	6.8	
ATLANTA	308	980.4	1016.5	27.8	18.3	23.1	0.7	30.6	15+	12.8	29	0	0	17.8	79	124	44	34	14	7	0	0	0.6	12	13.0	33	27	7	5	18	6.7	55
AUGUSTA	41	1011.2	1016.5	30.4	19.1	24.7	1.3	33.3	10	12.8	29	5	0	20.0	80	83	0	29	11	6	0	0	0.3	14	12.5	29	27	5	12	13	6.4	
COLUMBUS	117	1002.4	1016.2	30.8	20.4	25.6	1.4	34.4	15	16.1	22+	11	0	21.7	85	90	-3	25	13	8	0	0	0.8	9	9.4	9	1	5	8	17	7.1	
MACON	108	1003.7	1016.6	31.2	19.9	25.6	1.3	34.4	1	15.0	29	12	0	21.1	83	85	6	24	11	9	0	0	0.4	8	12.5	NW	27+	4	11	15	6.9	57
ROME	194			29.4	18.1	23.7	1.4	34.4	3+	11.7	29	4	0			159	60	51	13		0	0										
SAVANNAH	14	1014.9	1016.8	30.7	21.4	26.1	1.5	33.3	21+	16.1	29	9	0	21.1	78	166	24	52	13	12	0	0	0.2	13	17.0	W	10	4	12	14	6.9	52
HAWAII																																
HILO	8	1014.2	1015.4	29.8	20.7	25.3	1.1	32.2	12	19.4	27+	1	0	20.6	78	106	-83	40	21	0	0	0	0.4	21	7.6	SE	9	0	17	13	7.1	41
HONOLULU	2	1014.6	1014.9	31.3	23.8	27.6	0.7	32.2	15+	20.6	28	4	0	19.4	64	1	-16	1	2	0	0	0	4.9	7	12.5	NE	2	2	19	9	6.1	73
KAHULUI	15	1011.9	1014.3	31.3	21.7	26.5	0.7	33.9	21+	17.8	6	8	0			1	-6	1	3	0	0	0	4.5	5	14.8	E	2	11	14	5	4.7	75
LIHUE	31	1010.8	1016.2	29.6	23.7	26.7	0.7	30.6	5	18.9	27	0	0	20.6	70	32	-15	8	15	0	0	0	4.9	7	10.7	NE	1	3	17	10	6.5	68
IDAHO																																
BOISE	865	913.6	1012.8	24.2	9.1	16.7	-0.6	33.9	4	0.6	22	3	0	3.3	46	30	20	14	5	0	0	0	0.3	7	12.1	NW	21+	15	5	10	4.7	69
LEWISTON	431			22.0	10.6	16.3	-1.1	31.1	4	5.6	26	0	0			56	35	15	13		0	0			17.9Y		7					
POCATELLO	1358	862.2		23.9	6.8	15.4	0.2	33.9	7	0.0	18	5	1			25	10	9	8	2	0	0			15.6	SW	19+	12	11	7	4.6	75
ILLINOIS																																
CAIRO U	96			27.8	19.3	23.6	1.4	33.3	2	13.3	20	3	0			123	35	52	9		0	0			14.8	SW	13					60
CHICAGO O HARE	201	990.9	1014.8	23.4	14.3	18.9	1.3	30.0	4	9.4	11	0	0	13.9	74	154	78	41	12	7	0	0	0.4	22	11.2	19	12	5	5	20	7.5	
CHICAGO MIDWAY	185	992.9	1015.2	23.1	14.5	18.8	-0.1	30.0	4	10.0	21	0	0	13.9	75	240	164	106	12	8	0	0	0.6	22	11.6	S	17	5	5	20	7.4	47
MOLINE	177	993.2	1014.7	24.1	13.1	18.6	0.5	30.0	8	7.2	28	0	0	13.9	77	122	24	44	13	7	0	0	0.6	22	14.8	NE	30	8	5	17	6.5	39
PEORIA	199	991.5	1015.2	24.5	13.7	19.1	0.5	30.0	7	7.2	28	0	0	13.9	76	159	69	39	12	12	0	0	0.7	18	13.9	SW	17	5	9	16	6.8	53
ROCKFORD	221	988.5	1015.3	22.7	12.2	17.4	0.1	30.0	4	4.4	21	0	0	13.3	78	99	-2	35	14	8	0	0	0.3	20	11.2	28	26	6	5	19	7.2	
SPRINGFIELD	179	993.2	1015.0	25.9	14.7	20.3	0.8	31.1	1	7.2	28	0	0	16.7	82	151	68	41	12	8	0	0	0.9	17	16.1	NW	30	8	6	16	6.6	55
INDIANA																																
EVANSVILLE	116	1001.7	1015.3	27.9	17.0	22.4	1.8	33.9	1	10.6	28	3	0	18.3	80	116	45	45	13	10	0	0	0.4	20	10.7	SE	1	5	13	12	6.3	67

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 32 2 °C or above	No of days: Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1 6 kilometers): Speed	Fastest mile (1 6 kilometers): Direction	Fastest mile (1 6 kilometers): Date	Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
INDIANA																																
FORT WAYNE	241	986.1	1015.8	24.0	14.1	19.1	1.0	31.7	1	5.6	29	0	0	15.0	80	93	28	49	9	7	0	0	1.1	25	11.2	NW	26	3	8	19	7.4	68
INDIANAPOLIS	241	986.8	1015.7	26.6	15.2	20.9	1.8	33.3	1	7.2	21	2	0	16.7	81	86	13	46	8	7	0	0	0.8	22	13.0	S	24	5	10	15	6.6	66
SOUTH BEND	236	987.1	1015.0	22.8	14.1	18.5	0.8	28.9	4	8.3	29	0	0	14.4	80	229	151	76	12	8	0	0	0.8	24	8.9	18	18	4	7	19	7.6	
IOWA																																
BURLINGTON	211			23.9	14.1	19.0	0.4	30.0	7	8.9	28+	0	0	15.0	79	110	15	45	13	12	0	0	0.6	19	13.9	15	27	7	7	16	6.4	
DES MOINES	286	980.0	1014.2	24.1	14.3	19.2	1.2	30.0	8	7.8	20	0	0	12.8	67	72	-6	21	9	11	0	0	0.6	15	13.0	NW	23	9	9	12	5.9	58
DUBUQUE	322	976.3		20.9	12.1	16.5	0.1	27.2	4	6.7	28+	0	0			88	-30	38	10		0	0										
SIOUX CITY	334	974.3	1013.8	24.2	12.2	18.2	0.8	31.7	6	6.7	26+	0	0	11.1	67	124	52	61	10	8	0	0	1.1	14	16.5	SE	30	10	8	12	5.4	61
WATERLOO	265	983.4	1015.0	21.2	10.7	15.9	-0.5	28.3	8	2.8	28	0	0	12.2	80	155	62	70	12	10	0	0	0.4	17	11.2	30	9+	3	10	17	7.3	
KANSAS																																
CONCORDIA	448	960.7	1012.8	26.2	14.6	20.4	0.7	30.6	8+	8.9	24+	0	0	14.4	72	52	-27	28	9	11	0	0	1.7	14	13.0	SW	23	13	5	12	4.9	76
DODGE CITY	787	923.1	1011.7	29.1	15.8	22.4	1.9	33.9	26	7.8	24	6	0	13.3	62	22	-20	15	9	4	0	0	2.4	16	14.8	S	16	10	8	12	5.3	72
GOODLAND	1114	886.6	1011.3	27.9	10.9	19.4	1.5	36.7	8	3.3	24	6	0	9.4	59	26	-8	15	6	8	0	0	2.0	18	14.8	33	23	15	9	6	4.2	
TOPEKA	267	982.4	1013.7	28.3	15.7	22.0	1.9	33.9	3	8.9	10	5	0	16.1	72	82	-2	104	11	11	0	0	1.3	12	11.2	SW	23+	10	6	14	5.7	58
WICHITA	403	965.8	1012.8	28.3	17.5	22.9	1.4	33.9	26+	12.2	24	5	0	16.7	72	110	17	73	9	10	0	0	1.5	15	17.9	S	23	11	6	13	5.9	62
KENTUCKY																																
COVINGTON	265	984.8	1016.1	26.3	15.7	21.0	1.1	32.8	1	7.8	29+	2	0	16.1	77	46	-19	23	10	9	0	0	1.3	23	8.9	1	27+	6	10	14	6.4	
LEXINGTON	294	981.4	1016.3	27.3	17.3	22.3	2.0	32.8	1	10.0	28	2	0	16.1	70	69	2	28	9	5	0	0	1.1	17	10.7	17	24	7	8	15	6.8	
LOUISVILLE	145	998.3	1015.6	27.4	17.6	22.5	1.9	35.0	1	10.6	29	2	0	17.8	79	93	19	23	12	10	0	0	0.7	18	13.0	SW	15+	6	10	14	6.6	59
LOUISIANA																																
ALEXANDRIA	28	1010.2	1014.5	32.2	21.1	26.6	2.4	35.6	27+	16.7	21	18	0	22.2	82	44	-42	21	9	4	0	0	0.5	16								
BATON ROUGE	20	1012.7	1014.9	30.7	22.2	26.5	1.2	32.8	30+	19.4	20	10	0	22.2	82	354	258	140	15	11	0	0	0.4	14	11.2	26	13	3	16	11	6.3	
LAKE CHARLES	3	1012.9	1014.1	31.3	21.9	26.7	0.9	33.9	3	17.8	20	12	0	22.8	86	100	-5	33	13	9	0	0	0.8	16	13.4	12	1	12	14	4	5.1	
NEW ORLEANS	1	1013.5	1014.3	30.9	22.6	26.8	1.1	33.3	27+	20.0	23	11	0	23.3	83	342	201	126	17	15	0	0	0.7	15	11.2	16	5	4	13	13	6.3	58
SHREVEPORT	77	1004.7	1013.8	32.1	19.8	25.9	0.7	35.0	4	13.9	15	20	0	21.7	81	13	-65	8	4	1	0	0	1.4	18	10.3	34	19	5	16	9	6.0	63
MAINE																																
CARIBOU	190	993.2		15.7	5.6	10.7	-1.6	25.0	1	-0.6	25	0	1			90	1	36	11		0	0						2	9	19	7.9	
PORTLAND	13	1014.2	1016.7	19.4	9.0	14.2	-0.6	32.2	2	2.8	22	1	0	11.1	83	118	39	40	10	1	0	0	0.1	24	12.5	S	26	6	7	17	6.8	50
MARYLAND																																
BALTIMORE	45	1011.2	1016.9	27.6	17.0	22.3	2.0	35.0	2	8.3	12	6	0	16.1	72	16	-64	7	5	2	0	0	0.6	26	10.7	NW	14	7	7	16	6.7	54
MASSACHUSETTS																																
BLUE HILL OBS R	192			20.4	12.1	16.3	-0.6	31.1	2	6.1	22	0	0			128	36	40	13		0	0			19.2	S	26					50
BOSTON	5	1015.9	1016.9	21.7	14.3	18.0	-0.1	33.3	2	8.3	22	1	0	13.9	80	102	22	39	13	1	0	0	0.2	27	17.0	SW	26	8	10	12	6.1	53
WORCESTER	301	979.7		19.7	10.9	15.3	-0.8	29.4	2	3.9	22	0	0	10.0	75	166	77	54	14	3	0	0	1.2	29	12.1	29	14	5	7	18	7.1	
MICHIGAN																																
ALPENA	210	989.8	1015.1	18.6	10.5	14.6	1.1	26.7	9	2.8	11	0	0	11.7	84	102	19	42	17	1	0	0	0.3	21	9.8	E	24	3	3	24	8.4	34
DETROIT	189			23.1	15.6	19.4	1.3	31.1	1	10.6	29	0	0	12.8	68					5			1.0	25	16.5	26	26					
DETROIT METRO	193	991.2	1015.0	23.5	13.2	18.4	0.8	31.1	9	6.1	29+	0	0	13.3	78	107	53	35	15	8	0	0	1.0	26	11.6	W	26	1	10	19	7.8	52
FLINT	235	987.1	1014.8	21.6	13.4	17.6	1.4	28.9	9	6.7	11	0	0	13.3	79	117	53	32	14	8	0	0	0.8	23	10.3	25	26	1	9	20	8.1	
GRAND RAPIDS	239	986.1	1015.2	21.6	12.7	17.2	0.3	27.2	4	5.6	29	0	0	14.4	84	108	24	35	11	4	0	0	0.8	21	13.9	W	26	2	8	20	8.1	40
HOUGHTON LAKE	350	973.2	1015.2	18.8	10.4	14.6	0.7	23.9	4	0.6	11	0	0	11.7	84	106	26	27	19	5	0	0	0.5	22	11.2	27	10	1	8	21	8.3	
LANSING	256	983.7	1015.1	21.9	12.1	17.1	0.6	28.9	9	4.4	29+	0	0	14.4	87	113	46	34	12	6	0	0	1.0	23	13.0	W	26	1	11	18	8.2	36
MARQUETTE	206			16.5	10.8	13.7	-0.4	22.2	4+	7.2	21	0	0			131	44	68	18		0	0			16.1	SW	9					36
MUSKEGON	191	992.2	1014.9	20.6	13.1	16.8	0.4	25.0	4	6.1	14	0	0	13.9	85	112	26	33	15	9	0	0	0.5	25	10.7	33	10+	4	9	17	7.6	
SAULT STE MARIE	220	988.2	1014.8	16.0	7.9	12.0	-0.9	22.2	9	1.1	11	0	0	10.6	92	109	12	24	17	1	0	0	0.3	8	17.0	SE	24	3	3	24	8.4	28
MINNESOTA																																
DULUTH	435	963.1	1014.6	15.9	7.6	11.8	-0.7	22.8	8	2.2	21	0	0	8.3	80	152	74	86	19	5	0	0	1.1	8	20.1	SW	9	3	3	24	8.3	36
INTERNATIONAL FALLS	359	970.9	1014.2	16.1	6.7	11.4	-0.3	23.9	16+	0.6	28	0	0	8.9	87	173	69	54	20	7	0	0	0.5	11	12.5	29	9	3	6	21	8.1	
MINNEAPOLIS	254	983.7	1014.1	20.6	11.1	15.8	0.3	29.4	8	5.0	28	0	0	17.2	81	113	43	30	16	6	0		0.4	20	14.8	SW	8	4	9	17	7.4	45
ROCHESTER	395	967.2	1014.5	21.4	10.7	16.1	0.9	27.8	8	3.9	20	0	0	11.1	75	93	14	22	12	8	0	0	1.3	21	17.4	24	8	3	11	16	7.5	
ST CLOUD	313	976.6	1013.9	20.1	9.4	14.8	0.4	30.0	8	3.3	28	0	0			59	-8	18	14		0	0						4	8	18	7.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature								No. of days				Precipitation			No. of days		Snow Ice pellets		Wind		Fastest mile (1.6 kilometers)			No. of days sunrise to sunset				
	Elevation (ground)	Station Ω	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
JACKSON	94	1003.4	1014.9	30.8	20.7	25.8	1.3	35.0	2	16.1	21	9	0	21.1	80	100	24	53	12	7	0	0	1.2	16	10.3	24	13	7	8	15	6.5	53
MERIDIAN	88	1004.7	1015.5	31.9	20.5	26.2	2.2	34.4	2+	16.1	22	16	0	20.6	77	168	84	115	11	5	0	0	0.7	17	10.3	28	28	4	10	16	7.0	
MISSOURI																																
COLUMBIA REGIONAL	270	982.7	1014.6	26.2	16.2	21.2	1.1	32.8	2	11.1	28+	2	0	16.7	78	169	58	56	13	11	0	0	0.9	13	13.9	NW	23+	7	3	20	6.8	42
KANSAS CITY	309	977.7	1013.6	25.2	15.9	20.6	0.1	30.6	2	11.1	19	0	0	16.7	81	288	181	224	11	10	0	0	1.3	14	12.1	NW	12	8	8	14	6.1	44
ST JOSEPH	247			25.5	14.9	20.2	0.3	31.1	7	8.9	28+	0	0			192	94	112	11		0	0										
ST LOUIS	163	995.3	1015.1	26.9	16.1	21.5	0.6	33.9	2+	10.6	28	3	0	17.8	82	92	19	23	10	6	0	0	0.9	19	15.2	NW	24	5	8	17	6.7	50
SPRINGFIELD	386	969.9	1014.3	27.3	17.7	22.6	1.8	33.3	3+	10.6	20	4	0	18.3	78	229	125	52	17	15	0	0	2.0	16	14.8	SW	18	4	13	13	6.7	56
MONTANA																																
BILLINGS	1087	889.6	1012.3	21.8	8.1	15.0	0.1	32.2	7	3.9	25+	1	0	5.0	56	17	-19	9	10	2	0	0	1.2	31	16.5	NW	8	11	10	9	5.0	65
GLASGOW	696	931.9	1013.6	19.1	6.7	12.9	-1.1	28.9	4	2.2	27	0	0	6.7	71	67	45	25	11	3	0	0	1.4	8	12.5	32	8	3	11	16	7.2	
GREAT FALLS	1116	887.6	1013.8	20.4	6.3	13.4	-0.7	32.2	7	0.0	26	1	1	3.9	58	56	27	24	9	1	0	0	1.6	24	12.1	SW	14	4	14	12	6.7	60
HAVRE	788	921.4		21.9	6.2	14.1	0.1	31.1	4	0.0	27+	0	2			44	16	22	13	1	0	0	0.3	21	13.0	NW	8	7	8	15	6.5	57
HELENA	1167	880.5	1014.7	21.6	5.3	13.5	0.4	31.1	6	-1.1	25	0	2	2.8	54	49	24	18	12	7	0	0	1.5	27	13.4	NW	8	9	8	13	6.1	57
KALISPELL	904	910.9	1015.5	18.2	4.2	11.2	-0.6	26.7	14	-2.2	27	0	2	5.0	68	55	27	14	15	1	0	0	0.4	19	8.9	4	16+	5	8	17	7.0	
MILES CITY	801	920.1	1012.1	21.6	8.6	15.1	-0.4	30.6	4+	2.2	26	0	0	7.8	65	49	18		8	4	0		1.3	4								
MISSOULA	972	903.8	1015.2	19.8	5.3	12.6	-0.4	29.4	7	-0.6	27	0	1	6.1	71	42	15	15	13	2	T	0	0.9	30	11.6	NW	8	6	7	17	6.8	49
NEBRASKA																																
GRAND ISLAND	561	948.2	1013.2	25.1	12.3	18.7	0.7	32.8	6	6.1	26	2	0	12.8	74	197	134	149	7	7	0	0	1.3	15	13.0	30	23+	12	8	10	4.6	
LINCOLN	359	971.2	1013.4	25.1	13.1	19.1	0.4	31.7	6	7.2	26+	0	0	13.9	75	154	71	89	11	10	0	0	1.0	15	15.2	SE	21	12	6	12	5.2	59
NORFOLK	471	958.0	1013.0	25.1	12.3	18.7	1.4	33.3	6	6.1	26	2	0	11.7	69	46	-15	12	8	7	0	0	1.1	18	18.3	32	8	11	11	8	4.8	
NORTH PLATTE	846	916.0	1012.6	26.5	8.8	17.7	0.8	34.4	8+	0.0	24	2	1	8.9	62	38	-13	16	6	6	0	0	1.5	13	17.9	NW	23	11	11	8	5.0	67
OMAHA	298			25.5	13.8	19.7	0.6	30.0	8+	7.8	10	0	0	15.6	80	128	45		11	9	0		0.7	16								
OMAHA (NORTH) WSFO	399			24.1	13.6	18.8	0.8	30.6	6	7.8	19	0	0			135	55	50	11	10	0	0			14.8	NW	23	12	7	11	5.2	69
SCOTTSBLUFF	1206	878.1	1011.3	27.8	9.3	18.6	2.3	35.6	8	2.8	24	5	0	6.1	50	10	-19	4	5	6	0	0	0.7	8	16.5	35	8	13	10	7	4.3	
VALENTINE	789	922.1		24.9	9.1	17.0	0.7	36.1	8	2.8	27+	4	0	8.3	60	44	6	24	8		0	0	0.7	18	24.6	NW	8	15	6	9	4.5	74
NEVADA																																
ELKO	1539	843.9	1012.4	26.8	5.3	16.1	1.8	36.1	6	-5.0	23	7	3	-2.8	32	7	-2	3	4	1	0	0	0.9	25	9.4	24	25+	18	7	5	3.4	
ELY	1906	809.3	1012.1	24.1	4.1	14.1	0.4	32.2	6	-7.2	23	1	7	-1.1	39	13	-3	7	7	3	5	0	3.4	21	17.9	SW	15	17	8	5	3.8	91
LAS VEGAS	659	935.3	1010.0	34.7	19.3	27.0	0.3	42.8	5	13.9	22+	20	0	3.3	25	5	-2	5	2	1	0	0	3.2	21	14.3	SW	17+	17	11	2	2.9	91
RENO	1342	864.9	1012.5	27.1	4.8	15.9	0.3	35.0	5+	-2.8	23	9	4	0.6	39	T	-6	T	1	0	0	0	1.3	26	15.2	NW	25+	17	7	6	3.2	94
WINNEMUCCA	1311	867.6	1012.8	26.7	3.2	14.9	-0.2	36.1	5	-6.1	23	8	8	-1.1	35	6	-2	3	3	0	T	0	1.1	25	13.0	SW	19	16	9	5	3.6	82
NEW HAMPSHIRE																																
CONCORD	104	1004.4	1017.0	21.3	8.2	14.7	-0.6	32.8	2	-1.1	12	1	2	10.0	75	143	66	56	10	2	0	0	0.5	29	13.9	W	14	3	12	15	7.2	51
MT WASHINGTON OBS	1909			6.7	1.3	4.0	-1.1	14.4	2+	-5.0	25	0	14			270	109	65	20	0	10	T			43.8	W	14	3	2	25	8.7	18
NEW JERSEY																																
ATLANTIC CITY	20	1014.2	1016.7	25.6	16.0	20.8	1.3	32.8	2	7.2	12	1	0	16.1	75	75	-1	31	9	5	0	0	0.5	22	10.3	23	14	6	7	17	6.9	48
ATLANTIC CITY U	3			24.6	18.8	21.7	1.6	31.7	3	12.8	29+	0	0			46	-21	22	8						13.9	SW	14					
NEWARK	2	1015.6	1016.7	24.1	15.8	20.0	0.1	33.9	2	9.4	12	1	0	15.0	75	101	14	44	13	3	0	0	0.4	27	9.4	31	14	2	12	16	7.3	
TRENTON U	17			24.4	16.1	20.3	0.7	32.8	2	8.9	12	1	0			122	42	43	13		0	0			12.1	S	13	4	10	16	7.1	46
NEW MEXICO																																
ALBUQUERQUE	1619	839.8	1013.1	28.0	13.5	20.8	-0.4	32.2	10+	9.4	24	2	0	8.3	51	20	0	7	6	5	0	0	0.5	22	14.8	E	9	12	9	9	4.5	73
CLAYTON	1515			28.2	12.4	20.3	1.9	32.2	26+	5.0	24	2	0			11	-34	8	4		0	0										
ROSWELL	1112	889.6	1010.4	33.4	18.1	25.8	4.4	37.8	20	13.9	14	25	0	10.6	42	7	-30	4	4	4	0	0	0.7	19	15.2	W	27	15	12	3	3.6	91
NEW YORK																																
ALBANY	84	1006.1	1016.7	21.1	11.6	16.3	-0.3	29.4	2+	3.3	12	0	0	13.3	84	169	90	39	16	2	0	0	0.9	21	13.4	NW	14	3	8	19	7.5	37
BINGHAMTON	485	958.3	1016.9	19.8	11.7	15.7	0.1	28.9	1	5.0	12	0	0	12.2	80	245	169	74	16	8	0	0	1.6	23	11.6	SE	25	2	9	19	7.8	31
BUFFALO	215	990.2	1015.5	20.7	13.2	17.0	0.6	29.4	1	6.7	29	0	0	13.3	80	228	146	49	14	7	0	0	1.3	22	16.5	SW	26	1	7	22	8.0	37
NEW YORK U	40	1013.9	1016.9	23.7	16.5	20.1	-0.1	34.4	2	11.1	29+	2	0	14.4	73	121	38	50	14	1	0	0	0.2	32	9.4	NE	20					
NEW YORK KENNEDY	4	1016.3	1016.9	22.9	15.8	19.3	-0.1	32.2	3	10.0	12	1	0	15.0	78	170	86	49	16	2	0	0	0.4	26	20.6	2	2	4	12	14	6.9	
NEW YORK LA GUARDIA	3	1015.9	1017.0	22.9	16.2	19.6	-0.5	32.2	2	11.1	29+	1	0	13.9	73	122	42	56	14	3	0	0	0.3	29	13.0	E	25	3	12	15	7.1	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NEW YORK																																
ROCHESTER	167	995.6	1015.5	21.6	12.4	17.1	0.2	32.2	1	5.6	29	1	0	14.4	87	160	100	39	17	6	0	0	1.4	23	15.6	SW	26	3	5	22	8.0	35
SYRACUSE	125	1001.0	1016.0	20.9	12.9	16.9	-0.2	30.0	1	5.0	12	0	0	12.8	79	166	97	34	16	3	0	0	0.8	23	13.0	W	14	2	9	19	8.0	25
NORTH CAROLINA																																
ASHEVILLE	652	942.3	1018.0	25.8	15.4	20.6	1.3	30.0	3	7.8	29	0	0	17.2	85	232	141	74	14	5	0	0	0.4	35	10.3	36	28	4	12	14	6.7	41
CAPE HATTERAS R	2	1016.9	1017.2	28.6	21.7	25.2	2.0	31.1	4	14.4	30+	0	0	20.6	77	69	-78	61	6	5	0	0	0.5	20	8.0	17	9+	13	11	6	4.6	72
CHARLOTTE	224	990.2	1017.3	28.5	18.6	23.6	1.3	33.9	3+	10.0	29	5	0	18.3	77	161	73	80	9	4	0	0	0.1	7	10.3	NW	7	4	14	12	6.6	70
GREENSBORO	273	986.1	1017.4	27.4	16.7	22.1	1.1	33.9	3	8.3	29	4	0	17.8	80	161	71	140	6	3	0	0	0.3	21	8.5	SE	16+	9	9	12	5.9	56
RALEIGH	132	1001.4	1017.1	28.5	16.8	22.7	1.2	33.9	3	8.3	29	5	0	18.3	82	98	2	74	6	4	0	0	0.4	19	7.2	22	16+	12	8	10	5.4	61
WILMINGTON	9	1015.6	1016.9	30.6	20.3	25.4	1.7	32.8	27+	13.9	29	9	0	21.7	84	124	-19	59	9	9	0	0	0.4	13	11.2	SW	7	7	11	12	6.3	67
NORTH DAKOTA																																
BISMARCK	502	954.3	1013.7	19.6	8.1	13.9	-0.3	29.4	5	2.2	27	0	0	8.3	75	176	142	77	13	7	0	0	0.5	6	12.5	SE	15+	6	7	17	7.1	48
FARGO	273	980.4	1012.9	19.2	9.6	14.4	0.0	27.8	8	4.4	29	0	0	9.4	76	82	35	25	15	5	0	0	0.3	36	15.6	NW	9	4	5	21	7.7	35
WILLISTON	579	945.5	1013.8	18.9	7.8	13.4	-0.3	29.4	14	2.2	19	0	0	8.3	76	58	28	21	12	3	0	0	0.7	2	13.0	NW	8	4	6	20	7.5	41
OHIO																																
AKRON	368	972.2	1016.4	22.9	13.6	18.2	0.6	29.4	1	7.8	29	0	0	13.3	75	94	28	25	17	13	0	0	1.3	22	8.9	18	24	3	11	16	7.1	
CINCINNATI ABBE OB	232			26.9	16.5	21.7	1.5	33.9	1	9.4	29	2	0			41	-27	22	8						7.6	SW	24					78
CLEVELAND	237	987.5	1016.5	23.6	13.7	18.7	0.9	31.1	1	8.3	29	0	0	15.0	82	64	-7	29	12	7	0	0	1.7	22	10.3	26	26	4	9	17	7.4	53
COLUMBUS	247	986.5	1016.3	25.2	15.0	20.1	1.7	31.7	1	7.2	29	0	0	14.4	71	88	27	29	11	8	0	0	1.0	19	11.6	SW	26	7	7	16	6.7	50
DAYTON	303	980.0	1015.9	25.8	14.5	20.2	1.1	32.8	2+	6.7	29	2	0	14.4	71	69	11	29	10	6	0	0	1.4	23	13.0	SW	24	6	4	20	7.1	58
MANSFIELD	395			23.5	14.1	18.8	0.2	31.1	1	7.2	29	0	0	14.4	78	116	43	39	10	8	0	0	1.9	22	10.3	21	26+	4	8	18	7.4	
TOLEDO	204	990.5	1015.5	23.4	13.2	18.3	0.7	30.0	2+	5.6	29	0	0	15.0	82	108	47	27	13	9	0	0	1.0	25	12.1	W	26	5	8	17	7.5	44
YOUNGSTOWN	359	973.9	1016.3	23.3	13.9	18.7	1.6	31.1	1	6.1	29	0	0	13.3	74	128	61	47	16	10	0	0	1.3	21	9.4	27	26	2	11	17	7.6	
OKLAHOMA																																
OKLAHOMA CITY	392	967.2	1012.4	31.8	19.2	25.6	2.8	37.8	30	11.7	20	14	0	17.2	66	30	-60	20	6	7	0	0	2.0	14	12.5	SW	30+	13	9	8	4.7	70
TULSA	198	988.5	1012.4	29.3	19.1	24.2	1.3	33.9	4+	11.7	20	9	0	19.4	78	141	38	48	10	9	0	0	1.8	15	15.6	SE	21	6	15	9	5.7	60
OREGON																																
ASTORIA	2	1014.6	1015.3	18.8	9.0	13.9	-0.8	26.7	12	4.4	22	0	0	11.1	84	138	66	32	16	1	0	0	0.9	21	8.9	19	2	6	6	18	7.2	
BURNS J	1265			21.4	5.6	13.5	-1.1	31.1	6+	-1.7	23	0	4			28	17	14	9		0	0			19.7Y	SW	3	14	5	11	5.0	
EUGENE	109	1001.7	1015.1	21.7	8.7	15.2	-1.4	30.6	12	4.4	29+	0	0	10.0	74	61	29	20	11	0	0	0	0.6	26	10.3	1	8	8	3	19	7.0	
MEDFORD	396	966.8	1014.0	25.5	9.8	17.7	-0.3	33.9	12+	2.8	22	9	0	7.8	59	107	93	78	8	0	0	0	0.9	32	12.1	14	18	14	7	9	4.3	
PENDLETON	452	961.1	1014.5	20.6	8.9	14.7	-3.1	28.9	13+	4.4	26	0	0	6.7	64	30	13	15	10	1	0	0	1.0	25	12.5	26	7	8	10	12	5.8	
PORTLAND	6	1013.9	1015.0	20.9	11.0	16.0	-0.8	31.1	12	5.6	22	0	0	10.6	74	85	44	17	16	0	0	0	0.4	26	9.8	NW	20	9	3	18	6.7	53
SALEM	60	1007.5	1014.8	21.3	8.6	15.0	-1.6	31.1	12	3.3	22	0	0	10.6	77	60	23	17	16	1	0	0	0.8	22	7.6	22	24+	8	3	19	6.5	
SEXTON SUMMIT R	1169	883.2	1014.2	17.1	7.6	12.3	-3.1	27.2	12	2.8	16	0	0			108	82	58	8		0	0			15.6Y	N	11					
PACIFIC AREA																																
GUAM TAGUAC R	110			29.8	22.4	26.1	-0.1	31.7	11	20.0	13	0	0			440	82	106	26		0	0			13.4	SW	13	0	7	23	8.8	32
JOHNSTON	2	1011.5	1012.1	29.0	25.8	27.4	0.2	30.0	21+	23.9	9+	0	0	23.9	82	143	91	89	14	0	0	0	5.7	10	15.2	E	5	9	9	12	6.1	76
KOROR R	29	1005.4		30.6	25.2	27.9	0.3	32.8	28+	22.2	29+	2	0			321	-9	91	15	5	0	0	2.3	23	10.7	SW	5	0	3	27	8.9	50
KWAJALEIN	2	1009.5		31.1	25.9	28.5	0.4	32.8	19+	23.9	27+	4	0			208	-69	51	19	2	0	0	0.6	8	10.3	21	17	3	12	15	7.0	
MAJURO	3	1009.8		31.1	24.9	28.0	0.6	32.2	29+	22.8	20+	7	0			247	-119	93	20		0	0	0.3	14	13.4	N	18	3	8	19	7.6	72
PAGO PAGO	4	1012.9	1013.1	28.4	23.2	25.8	-0.3	30.0	30+	18.9	17	0	0	22.2	80	79	-75	25	15	1	0	0	4.0	12	17.0	E	30	0	14	16	7.5	75
PONAPE R	37			32.0	22.9	27.5	0.5	33.9	26	21.7	15	18	0			276	-149	98	23	0	0	0			5.8	SW	30+	0	6	24	8.8	42
TRUK MOEN ISLAND	2	1009.5		31.1	24.1	27.6	0.4	32.8	29	21.7	18	4	0			354	22	68	19	0	0	0	1.2	24	13.0	W	9	1	3	26	9.1	27
WAKE	3	1011.9	1012.3	31.6	24.8	28.2	0.1	33.3	27	22.8	8	9	0	23.9	79	111	-34	39	18	3	0	0	5.0	6	13.9	E	29+	7	16	7	5.6	77
YAP R	13	1007.1		30.3	23.3	26.8	-0.6	31.7	27	21.7	29+	0	0			476	143	199	23	3	0	0	2.3	24	20.6	SW	3	0	7	23	8.8	33
PENNSYLVANIA																																
ALLENTOWN	118	1003.4	1017.2	23.9	14.6	19.3	1.1	32.2	2	6.1	12	1	0	15.0	78	104	13	43	14	6	0	0	0.1	32	9.8	27	18+	2	9	19	7.5	
ERIE	223	989.5	1016.2	20.8	13.1	16.9	0.6	28.3	1	5.0	29	0	0	15.0	90	271	180	52	16	9	0	0	1.9	22	12.5	26	26	3	11	16	7.1	
HARRISBURG	103	1004.4	1017.0	24.7	15.7	20.2	0.7	33.3	2	6.7	12	1	0	15.6	78	95	27	24	12	5	0	0	0.5	27	9.8	NE	25	3	8	19	7.4	32
PHILADELPHIA	2	1015.9	1016.9	25.6	16.5	21.1	1.0	32.8	2	8.9	12	1	0	16.1	77	87	10	30	11	4	0	0	0.1	25	10.7	E	25	5	9	16	7.1	44
PITTSBURGH	347	973.2	1016.9	23.1	13.2	18.2	0.5	31.1	1	4.4	29	0	0	12.2	71	80	15	25	14	5	0	0	1.2	24	12.5	31	2	3	10	17	7.4	37
SCRANTON	283	983.1	1017.0	21.7	12.4	17.1	-0.1	30.0	2	3.9	12	0	0	13.3	82	152	80	37	16	5	0	0	0.5	24	11.2	SW	2	2	12	16	7.5	40
WILLIAMSPORT	160	998.0	1016.8	24.6	14.5	19.6	1.8	32.2	2	6.1	12	1	0	14.4	77	185	108	50	14	7	0	0	0.0	6	11.2	29	2	1	13	16	7.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No of days			Average relative humidity	Precipitation			No of days		Snow, Ice pellets		Wind		Fastest mile (1 6 kilometers)			No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
BLOCK ISLAND	34			20.5	15.2	17.8	0.2	28.9	3	9.4	22	0	0			104	28	36	13		0	0										
PROVIDENCE	16	1014.6	1016.9	22.2	13.4	17.8	0.4	32.2	2	6.1	12	1	0	13.3	77	142	59	32	10	4	0	0	0.8	28	13.0	23	14	6	9	15	6.8	51
SOUTH CAROLINA																																
CHARLESTON	12	1015.2	1017.3	30.7	21.2	25.9	1.9	33.3	7	15.0	29	8	0	20.6	77	63	-68	20	9	7	0	0	0.3	17	10.3	31	27+	5	12	13	6.7	84
CHARLESTON U	3			30.6	23.3	26.9	2.2	33.3	21+	16.7	29	9	0			113	-29	57	11		0	0										
COLUMBIA	65	1008.8	1016.8	30.2	17.9	24.1	0.5	32.2	20+	9.4	29	7	0	19.4	81	38	-71	7	9	7	0	0	0.3	20	11.2	21	7	5	11	14	6.6	61
GRNVLLE-SPRTNBRG	292	982.7	1016.9	28.0	19.1	23.6	1.5	33.3	3	11.1	29	2	0	18.3	77	240	144	76	14	8	0	0	0.1	1	12.1	NW	27	7	12	11	6.3	67
SOUTH DAKOTA																																
ABERDEEN	395	966.5	1013.1	21.5	9.2	15.3	0.2	33.3	8	3.3	10	1	0	9.4	70	111	67	39	8	6	0	0	0.5	5	18.3	32	8	7	7	16	6.5	
HURON	390	966.1	1012.3	23.2	10.0	16.6	0.7	35.6	8	3.9	27+	1	0	10.6	72	58	13	17	10	9	0	0	0.8	16	21.5	SW	8	10	4	16	6.0	57
RAPID CITY	964	903.5	1013.0	23.8	8.3	16.1	0.3	33.9	3	3.3	24+	3	0	7.2	60	73	42	54	10	9	0	0	0.8	4	24.6	NW	8	14	6	10	4.5	77
SIOUX FALLS	432	962.4	1013.6	22.0	11.2	16.6	0.6	30.6	8	5.6	27+	0	0	11.1	71	143	71	77	10	14	0	0	1.0	18	13.4	23	8	9	8	13	5.9	
TENNESSEE																																
BRISTOL	459	964.1	1017.6	26.6	15.1	20.9	0.6	31.7	5+	7.2	29	0	0	15.6	77	60	-13	28	13	6	0	0	0.0	1	8.0	29	16	5	13	12	6.3	
CHATTANOOGA	203	992.2	1016.4	28.7	19.3	24.1	1.9	35.0	3+	12.8	29+	7	0	18.9	78	360	266	168	14	10	0	0	0.4	17	9.4	31	25	7	7	16	6.6	48
KNOXVILLE	299	982.4	1016.7	27.8	18.9	23.3	1.3	32.8	5+	12.2	29	5	0	19.4	83	176	105	64	15	10	0	0	0.4	36	8.0	3	7+	6	8	16	6.7	66
MEMPHIS	79	1005.1	1014.9	31.3	20.9	26.1	3.0	36.1	2+	15.6	21+	13	0	18.9	68	163	87	67	7	7	0	0	1.0	13	12.5	26	19	8	10	12	6.2	63
NASHVILLE	180	994.6	1015.9	28.4	18.2	23.3	1.1	33.3	4+	12.2	11	5	0	18.3	79	128	50	35	11	8	0	0	0.8	17	14.8	34	27	4	14	12	6.5	59
OAK RIDGE R	276			26.4	16.2	21.3	0.1	32.2	4	10.6	29+	1	0			220	135	49	13		0	0			11.2		13	7	8	15	6.6	
TEXAS																																
ABILENE	544	950.2	1011.3	35.3	20.9	28.1	3.6	40.6	26	12.8	26	26	0	16.1	53	2	-55	2	3	3	0	0	3.2	18	14.3	S	30	14	11	5	4.1	86
AMARILLO	1098	891.0	1011.3	30.8	16.2	23.5	2.5	36.1	20	8.3	24	12	0	10.6	50	1	-48	1	1	2	0	0	2.2	22	12.5	26	30+	11	13	6	4.7	73
AUSTIN	182	991.5	1013.2	34.6	23.0	28.8	2.7	37.2	5+	18.9	15	28	0	20.0	67	79	-15	39	5	7	0	0	2.3	18	17.0	NE	19	11	14	5	4.4	75
BROWNSVILLE	6	1011.9	1012.5	34.4	23.7	29.1	1.5	37.2	5	20.0	15	28	0	22.8	74	72	-61	43	4	2	0	0	3.2	15	15.2	NE	2+	18	9	3	3.7	82
CORPUS CHRISTI	12	1010.8	1012.6	35.6	23.8	29.7	2.5	39.4	5	21.1	21+	29	0	23.9	75	22	-102	10	6	3	0	0	3.7	15	14.3	8	1	11	16	3	4.5	85
DALLAS - FORT WORTH	168	991.5	1012.2	34.0	21.1	27.6	2.2	38.3	27	12.2	20	25	0	20.0	67	44	-36	29	4	5	0	0	2.4	18	10.3	19	30+	14	13	3	4.2	
DEL RIO	313	975.6	1010.7	37.0	22.8	29.9	3.1	40.6	25	20.6	7+	30	0	17.8	54	36	-42	23	3	4	0	0	3.7	12	12.5	6	6	18	7	5	3.6	
EL PASO	1194	881.8	1010.6	33.1	17.3	25.2	1.8	36.7	29	12.2	18	21	0	8.3	38	4	-25	4	2	2	0	0	0.7	25	10.3	28	12	18	10	2	3.1	94
GALVESTON	2			29.8	25.1	27.4	0.8	33.3	3	20.6	13	4	0			125	-18	40	10		0	0			12.5	E	19					64
HOUSTON INTERCON	29	1010.2	1013.8	32.5	20.8	26.7	0.4	35.0	4	16.7	20	20	0	21.1	75	100	-19	42	10	8	0	0	1.2	15	12.5	3	19	12	14	4	4.6	69
LUBBOCK	992	902.8	1011.2	32.8	17.6	25.2	3.6	37.2	30+	11.7	19	21	0	11.7	49	12	-43	12	2	3	0	0	1.3	19	10.3	34	13	16	11	3	3.5	86
MIDLAND	869	914.7	1010.3	35.7	19.9	27.8	3.7	40.6	26	15.0	26	26	0	11.7	41	2	-37	2	2	5	0	0	2.1	17	11.6	25	30	19	10	1	3.4	
PORT ARTHUR	5	1013.2		33.4	23.3	28.4	2.3	35.0	30+	18.9	20	27	0	22.8	78	73	-63	33	8	4	0	0	1.1	16	11.6	NE	19+	9	16	5	4.9	75
SAN ANGELO	580	946.2	1010.8	35.6	21.6	28.6	3.7	41.1	26	15.6	15	28	0	16.1	50	7	-63	4	3	3	0	0	2.8	17	10.3	18	23	19	9	2	3.3	
SAN ANTONIO	240	985.1	1012.5	33.4	22.5	27.9	1.7	37.2	5	18.3	20	26	0	20.6	69	54	-41	28	5	4	0	0	2.6	16	18.8	18	13	11	15	4	4.9	65
VICTORIA	32	1009.1	1013.2	33.9	22.9	28.4	1.7	36.7	5	20.0	20	28	0	22.2	75	81	-36	44	6	6	0	0	2.0	14	17.9Y	W	13	12	14	4	4.4	
WACO	153	994.9	1012.5	36.6	23.0	29.8	3.8	41.1	27	15.0	20	29	0	20.6	65	7	-74	4	4	6	0	0	3.4	17	9.8	18	30	15	12	3	4.1	
WICHITA FALLS	303	976.0	1011.4	35.4	19.6	27.5	2.5	42.2	30	12.8	20+	25	0	16.7	60	10	-66	3	7	3	0	0	2.6	15	11.2	19	30+	15	8	7	4.1	
UTAH																																
MILFORD	1533	845.9	1012.6	26.9	7.9	17.4	0.2	35.6	7	-2.2	23	7	1			5	-10	3	4		0	0			15.6	SW	19	19	6	5	3.6	78
SALT LAKE CITY	1286	870.3	1011.8	26.9	11.3	19.1	0.9	36.1	6	4.4	18	5	0	5.0	44	47	30	18	9	6	0	0	1.6	17	17.4	W	14	13	11	6	3.9	81
VERMONT																																
BURLINGTON	101	1003.7	1016.3	18.7	10.9	14.8	-0.3	28.9	1	3.9	12	0	0	11.7	82	161	83	49	17	3	0	0	0.9	17	12.1	SE	10	1	6	23	8.6	25
VIRGINIA																																
LYNCHBURG	279	984.1		26.6	15.6	21.1	1.1	32.2	2	8.3	29	1	0			57	-27	19	7		0	0	0.4	28	8.0	SW	13+	10	11	9	5.3	65
NORFOLK	7	1016.3	1017.1	29.2	20.0	24.6	2.5	36.1	3	12.8	30	5	0	17.8	70	76	-30	35	6	4	0	0	0.4	18	10.3	24	14	8	12	10	5.6	70
RICHMOND	50	1010.5	1016.8	29.4	17.4	23.4	2.3	35.0	3+	8.3	29	8	0	18.3	77	55	-36	34	6	2	0	0	0.4	20	7.6	SW	16+	5	15	10	6.1	77
ROANOKE	350	976.0	1017.4	27.1	15.6	21.3	1.3	34.4	2	7.2	30	5	0	16.1	77	69	-18	33	9	6	0	0	0.5	29	11.2	35	5	7	9	14	6.4	
WALLOPS ISLAND	3			25.6	19.0	22.3	1.3	32.2	3	10.6	30	1	0			37	-45	27	4		0	0			15.6Y	SW	14					
WASHINGTON																																
OLYMPIA	59	1007.5	1014.8	19.8	7.6	13.7	-1.1	27.8	13	2.8	9	0	0	10.6	83	116	62	21	18	1	0	0	0.8	20	10.3	25	20	7	5	18	7.1	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No of days			Average relative humidity	Precipitation			No of days		Snow, Ice pellets		Wind		Fastest mile (1 6 kilometers)			No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station ⊙	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m 's							%
WASHINGTON																																
QUILLAYUTE	55	1007.1	1014.6	18.1	7.6	12.8	-0.9	23.3	12	1.1	27	0	0	10.0	86	160	28	43	14	0	0	0	0.4	18	9.4	SE	19	8	5	17	6.8	44
SEATTLE U	6			18.7	10.9	14.8	-1.1	23.3	13	7.8	22	0	0			72	27	16	12		0	0			14.8Y	SSW	20					
SEATTLE-TACOMA	122	998.3	1014.6	19.3	10.6	14.9	-0.4	25.0	13	6.1	26+	0	0	9.4	72	65	14	16	14	0	0	0	0.3	21	9.8	SW	20	8	4	18	6.6	44
SPOKANE	718	930.6	1014.0	18.3	7.3	12.8	-2.5	27.2	13	0.0	22	0	1	5.6	68	36	15	12	12	0	0	0	1.6	18	11.6	SW	20	8	3	19	6.9	48
STAMPEDE PASS R	1206	878.4		11.9	4.6	8.3	-2.4	23.3	13	-0.6	21	0	1			203	85	64	18		147	25										
WALLA WALLA U	289			22.2	11.1	16.7	-2.1	30.6	4	5.6	26	0	0			30	8	11	10		0	0			11.2	W	7	9	8	13	5.6	52
YAKIMA	321	975.6		21.8	6.7	14.3	-2.0	28.3	13+	1.1	22	0	0			23	15	8	8	1	0	0			11.2	36	14	8	8	14	5.7	
WEST INDIES																																
SAN JUAN P.R.	4	1013.2	1015.6	3[illegible].4	24.1	27.3	0.0	33.3	28	22.8	23+	2	0	22.2	76	120	-35	65	16	8	0	0	3.0	9	11.2	SE	21	4	19	7	6.0	58
WEST VIRGINIA																																
BECKLEY	763	931.3	1018.1	23.2	13.6	18.4	1.3	29.4	1	6.1	12	0	0	15.0	84	103	17	28	12	6	0	0	1.5	19	11.2	25	16	2	12	16	7.6	
CHARLESTON	286	983.1	1016.9	26.4	16.0	21.2	1.5	32.8	1	7.8	12	2	0	16.7	81	29	-46	12	11	4	0	0	0.8	21	8.0	21	13	4	11	15	6.7	
ELKINS	594	947.9		24.7	12.9	18.8	2.4	31.1	1	2.8	12	0	0			54	-26	18	13		0	0						1	12	17	7.4	
HUNTINGTON	252	986.8	1016.6	25.7	15.2	20.4	0.6	34.4	1	6.7	29	2	0	16.1	80	83	10	50	7	2	0	0	0.8	21	7.6	29	20+	3	11	16	7.2	
PARKERSBURG U	187			26.3	16.1	21.2	1.6	32.8	1	8.9	29+	2	0			73	2	21	10		0	0			10.7	N	2					
WISCONSIN																																
GREEN BAY	208	989.2	1014.8	20.2	10.4	15.3	0.3	25.6	8	5.0	11	0	0	12.2	83	62	-20	15	14	4	0	0	0.6	25	14.8	SW	9	2	10	18	7.9	49
LA CROSSE	198	990.5	1014.7	21.3	11.7	16.5	-0.1	28.3	8	5.0	21	0	0	11.7	75	105	19		13	5	0		0.5	18								
MADISON	262	983.4	1014.9	20.4	10.3	15.4	0.0	27.8	4	4.4	11	0	0	12.8	84	72	-13	26	11	6	0	0	0.7	20	11.6	SE	23	4	6	20	7.6	36
MILWAUKEE	205	989.0	1015.1	20.3	12.8	16.6	0.4	28.3	4	7.8	14	0	0	12.8	80	104	28	26	11	6	0	0	0.8	24	17.4	SW	4	6	6	18	7.3	40
WYOMING																																
CASPER	1627	836.8	1011.7	25.8	5.6	15.7	0.9	32.8	7+	0.0	26+	3	3	0.0	41	6	-14	3	6	4	0	0	3.1	26	10.3	22	29	13	9	8	4.7	
CHEYENNE	1867	812.1	1011.5	24.4	7.4	15.9	1.4	31.1	6+	2.2	9	0	0	-0.6	37	5	-21	4	2	3	0	0	2.8	27	17.9	NW	26+	11	15	4	4.3	64
LANDER	1696	828.7	1012.1	24.0	6.8	15.4	0.7	32.8	7+	0.6	25	3	0	-0.6	37	5	-22	3	3	4	0	0	1.1	25	13.4	SW	17+	13	10	7	4.3	80
SHERIDAN	1208	877.4	1013.2	23.4	4.9	14.2	-0.2	31.7	7+	0.0	24	0	1	5.0	59	24	-9	10	9	6	0	0	1.8	30	15.2	NW	8	11	10	9	5.1	64

HEATING DEGREE DAYS

(Base 65°F.)

State and Station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
BIRMINGHAM	0	0	6
HUNTSVILLE	4	4	11
MOBILE	0	0	0
MONTGOMERY	0	0	0
ALASKA			
ANCHORAGE	421	640	1009
ANNETTE	338	719	772
BARROW	871	2305	2709
BARTER ISLAND	871	2437	2586
BETHEL	520	988	1313
BETTLES	663	908	1387
BIG DELTA	558	810	1145
COLD BAY	441	1119	1418
FAIRBANKS	573	798	1070
GULKANA	575	1013	1262
HOMER	490	1085	1325
JUNEAU	428	867	1094
KING SALMON	531	1102	1204
KODIAK	446	1127	1101
KOTZEBUE	622	1009	1535
MC GRATH	551	796	1212
NOME	598	1144	1639
ST. PAUL ISLAND	508	1427	1759
TALKEETNA	551	874	1109
UNALAKLEET	646	1068	1392
VALDEZ	496	1081	1321
YAKUTAT	478	1063	1233
ARIZONA			
FLAGSTAFF	157	185	376
PHOENIX	0	0	0
TUCSON	0	0	0
WINSLOW	5	5	19
YUMA	0	0	0
ARKANSAS			
FORT SMITH	0	0	0
LITTLE ROCK	0	0	5
CALIFORNIA			
BAKERSFIELD	0	0	0
BISHOP	64	64	49
BLUE CANYON	240	309	193
EUREKA U	231	733	770
FRESNO	0	0	0
LONG BEACH	0	0	7
LOS ANGELES	0	1	57
LOS ANGELES U	0	0	5
MT SHASTA R	246	312	246
OAKLAND	15	75	213
RED BLUFF	8	8	0
SACRAMENTO	17	17	5
SANDBERG R	110	123	50
SAN DIEGO	0	0	22
SAN FRANCISCO	55	206	243
SAN FRANCISCO U	93	406	481
SANTA MARIA	44	152	308
STOCKTON	2	2	0
COLORADO			
ALAMOSA	246	316	445
COLORADO SPRINGS	73	97	177
DENVER	38	54	120
GRAND JUNCTION	17	18	60
PUEBLO	34	38	55
CONNECTICUT			
BRIDGEPORT	52	59	42
HARTFORD	112	121	118
DELAWARE			
WILMINGTON	31	32	32
DIST.OF COLUMBIA			
WASHINGTON DULLES	23	26	43
WASHINGTON NATIONAL	1	1	14
FLORIDA			
APPALACHICOLA U	0	0	0
DAYTONA BEACH	0	0	0
FORT MYERS	0	0	0
JACKSONVILLE	0	0	0
KEY WEST	0	0	0
LAKELAND U	0	0	0
MIAMI	0	0	0
ORLANDO	0	0	0
PENSACOLA	0	0	0
TALLAHASSEE	0	0	0
TAMPA	0	0	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	2	2	6
ATLANTA	4	4	8
AUGUSTA	0	0	0
COLUMBUS	0	0	0
MACON	0	0	0
ROME	4	4	11
SAVANNAH	0	0	0
IDAHO			
BOISE	145	185	139
LEWISTON	153	186	141
POCATELLO	189	228	212
ILLINOIS			
CAIRO U	0	0	11
CHICAGO O HARE	42	50	115
CHICAGO MIDWAY	51	56	65
MOLINE	50	55	90
PEORIA	39	45	78
ROCKFORD	88	108	121
SPRINGFIELD	21	23	56
INDIANA			
EVANSVILLE	3	3	34
FORT WAYNE	62	75	102
INDIANAPOLIS	30	30	68
SOUTH BEND	58	78	128
IOWA			
BURLINGTON	47	55	78
DES MOINES	35	38	107
DUBUQUE	121	165	172
SIOUX CITY	55	64	123
WATERLOO	144	202	170
KANSAS			
CONCORDIA	23	23	73
DODGE CITY	3	3	41
GOODLAND	40	52	108
TOPEKA	6	6	55
WICHITA	1	1	32
KENTUCKY			
COVINGTON	32	34	44
LEXINGTON	6	6	40
LOUISVILLE	6	6	35
LOUISIANA			
ALEXANDRIA	0	0	0
BATON ROUGE	0	0	0
LAKE CHARLES	0	0	0
NEW ORLEANS	0	0	0
SHREVEPORT	0	0	0
MAINE			
CARIBOU	408	557	533
PORTLAND	233	316	282
MARYLAND			
BALTIMORE	9	9	27
MASSACHUSETTS			
BLUE HILL OBS R	148	172	131
BOSTON	85	89	84
WORCESTER	189	237	178
MICHIGAN			
ALPENA	206	411	450
DETROIT	45	50	91
DETROIT METRO	85	103	116
FLINT	97	139	197
GRAND RAPIDS	99	150	149
HOUGHTON LAKE	200	363	401
LANSING	118	175	169
MARQUETTE U	244	420	374
MUSKEGON	101	162	189
SAULT STE MARIE	335	692	512
MINNESOTA			
DULUTH	347	589	489
INTERNATIONAL FALLS	367	647	542
MINNEAPOLIS	145	180	205
ROCHESTER	143	204	241
ST CLOUD	191	287	283
MISSISSIPPI			
JACKSON	0	0	0
MERIDIAN	0	0	0
MISSOURI			
COLUMBIA REGIONAL	14	14	42
KANSAS CITY	21	21	42
ST JOSEPH	26	26	54
ST LOUIS	11	11	35
SPRINGFIELD	4	4	41
MONTANA			
BILLINGS	208	267	246
GLASGOW	292	464	308
GREAT FALLS	280	436	320
HAVRE	236	351	322
HELENA	270	414	394
KALISPELL	375	557	558
MILES CITY	200	258	242
MISSOULA	310	445	411
NEBRASKA			
GRAND ISLAND	47	48	113
LINCOLN	42	42	83
NORFOLK	45	50	140
NORTH PLATTE	96	132	156
OMAHA	28	29	77
OMAHA (NORTH) WSFO	41	44	116
SCOTTSBLUFF	72	95	168
VALENTINE	122	157	172
NEVADA			
ELKO	164	191	335
ELY	238	290	350
LAS VEGAS	0	0	0
RENO	154	176	235
WINNEMUCCA	203	233	247
NEW HAMPSHIRE			
CONCORD	222	317	243
MT WASHINGTON OBS	768	1857	1774
NEW JERSEY			
ATLANTIC CITY	28	30	35
ATLANTIC CITY U	11	11	23
NEWARK	50	50	34
TRENTON U	38	38	39
NEW MEXICO			
ALBUQUERQUE	1	1	7
CLAYTON	17	20	73
ROSWELL	0	0	17
NEW YORK			
ALBANY	156	214	166
BINGHAMTON	146	242	233
BUFFALO	110	155	183
NEW YORK U	56	56	29
NEW YORK KENNEDY	68	75	42
NEW YORK LA GUARDIA	59	59	30
ROCHESTER	113	166	161
SYRACUSE	121	195	149
NORTH CAROLINA			
ASHEVILLE	14	14	50
CAPE HATTERAS R	0	0	0
CHARLOTTE	3	3	10
GREENSBORO	7	7	24
RALEIGH	4	4	12
WILMINGTON	0	0	0
NORTH DAKOTA			
BISMARCK	246	374	305
FARGO	211	313	280
WILLISTON	267	406	331
OHIO			
AKRON	68	93	126
CINCINNATI ABBE OB	12	13	37
CLEVELAND	60	90	121
COLUMBUS	36	54	84
DAYTON U	45	52	70
MANSFIELD	63	96	89
TOLEDO	71	103	122
YOUNGSTOWN	65	102	149
OKLAHOMA			
OKLAHOMA CITY	0	0	12
TULSA	1	1	10
OREGON			
ASTORIA	231	503	515
BURNS U	278	411	324
EUGENE	178	266	211
MEDFORD	105	123	121
PENDLETON	200	255	116
PORTLAND	131	190	223
SALEM	181	261	216
SEXTON SUMMIT R	329	529	391
PENNSYLVANIA			
ALLENTOWN	56	66	91
ERIE	110	170	208
HARRISBURG	35	40	51
PHILADELPHIA	24	24	38
PITTSBURGH	78	130	121
PITTSBURGH U	30	39	64
SCRANTON	119	170	141
WILLIAMSPORT	46	65	110
RHODE ISLAND			
BLOCK ISLAND	84	87	92
PROVIDENCE	103	109	103
SOUTH CAROLINA			
CHARLESTON	0	0	0
CHARLESTON U	0	0	0
COLUMBIA	1	1	0
GRNVLLE-SPRTNBRG	2	2	0
SOUTH DAKOTA			
ABERDEEN	172	213	235
HURON	129	156	191
RAPID CITY	163	212	221
SIOUX FALLS	125	147	193
TENNESSEE			
BRISTOL	19	19	37
CHATTANOOGA	5	5	9
KNOXVILLE	3	3	10
MEMPHIS	0	0	7
NASHVILLE	3	3	10
OAK RIDGE	10	10	20
TEXAS			
ABILENE	0	0	0
AMARILLO	1	1	20
AUSTIN	0	0	0
BROWNSVILLE	0	0	0
CORPUS CHRISTI	0	0	0
DALLAS FT WORTH	0	0	0
DEL RIO	0	0	0
EL PASO	0	0	0
GALVESTON	0	0	0
HOUSTON INTERCON	0	0	0
LUBBOCK	0	0	8
MIDLAND	0	0	0
PORT ARTHUR	0	0	0
SAN ANGELO	0	0	0
SAN ANTONIO	0	0	0
VICTORIA	0	0	0
WACO	0	0	0
WICHITA FALLS	0	0	0
UTAH			
MILFORD	110	126	127
SALT LAKE CITY	73	84	110
VERMONT			
BURLINGTON	207	284	260
VIRGINIA			
LYNCHBURG	12	12	33
NORFOLK	0	0	9
RICHMOND	4	4	21
ROANOKE	18	16	32
WALLOPS ISLAND	7	7	15
WASHINGTON			
OLYMPIA	242	498	390
QUILLAYUTE	290	672	635
SEATTLE	185	304	269
SEATTLE-TACOMA	178	255	332
SPOKANE	289	402	264
STAMPEDE PASS R	536	1100	988
WALLA WALLA U	133	161	85
YAKIMA	217	273	204
WEST VIRGINIA			
BECKLEY	67	86	145
CHARLESTON	19	21	46
ELKINS	59	98	195
HUNTINGTON	35	35	46
PARKERSBURG U	12	12	46
WISCONSIN			
GREEN BAY	162	229	267
LA CROSSE	122	163	157
MADISON	161	262	226
MILWAUKEE	106	161	191
WYOMING			
CASPER	164	218	259
CHEYENNE	150	245	278
LANDER	183	235	248
SHERIDAN	233	318	304

COOLING DEGREE DAYS

(Base 65 F.)

SEPTEMBER 1977

State and station	Current season		
	This month	Period January through this month	Normals January through this month
ALABAMA			
BIRMINGHAM	329	2246	1844
HUNTSVILLE	271	1978	1736
MOBILE	482	2723	2391
MONTGOMERY	442	2531	2114
ALASKA			
ANCHORAGE	0	11	0
ANNETTE	0	60	14
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	8	0
BETTLES	0	90	17
BIG DELTA	0	65	34
COLD BAY	0	0	0
FAIRBANKS	0	98	52
GULKANA	0	5	9
HOMER	0	0	0
JUNEAU	0	1	0
KING SALMON	0	0	0
KODIAK	0	[illegible]	0
KOTZEBUE	0	19	0
MC GRATH	0	36	14
NOME	0	21	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	8	6
UNALAKLEET	0	22	0
VALDEZ	0	[illegible]	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	20	191	140
PHOENIX	683	4013	3242
TUCSON	517	2810	2601
WINSLOW	178	1267	1189
YUMA	644	3672	3783
ARKANSAS			
FORT SMITH	367	2219	1943
LITTLE ROCK	377	2212	1862
CALIFORNIA			
BAKERSFIELD	423	2526	2059
BISHOP	120	1175	1022
BLUE CANYON	53	473	302
EUREKA U	0	0	0
FRESNO	275	1860	1605
LONG BEACH	207	1036	855
LOS ANGELES	116	472	509
LOS ANGELES U	210	1062	1001
MT SHASTA R	19	373	286
OAKLAND	44	152	114
RED BLUFF	267	1982	1822
SACRAMENTO	139	974	1111
SANDBERG R	108	792	780
SAN DIEGO	224	745	631
SAN FRANCISCO	17	83	95
SAN FRANCISCO U	8	44	23
SANTA MARIA	17	81	67
STOCKTON	243	1582	1217
COLORADO			
ALAMOSA	2	65	88
COLORADO SPRINGS	49	498	455
DENVER	93	799	620
GRAND JUNCTION	180	1582	1129
PUEBLO	115	1145	971
CONNECTICUT			
BRIDGEPORT	143	776	729
HARTFORD	88	904	584
DELAWARE			
WILMINGTON	166	1115	980
DIST.OF COLUMBIA			
WASHINGTON DULLES	175	1156	931
WASHINGTON NATIONAL	274	1729	1386
FLORIDA			
APPALACHICOLA U	465	2385	2406
DAYTONA BEACH	478	2796	2512
FORT MYERS	509	2812	3076
JACKSONVILLE	462	2529	2340
KEY WEST	556	3653	3912
LAKELAND U	525	2981	2821
MIAMI	549	3363	3253
ORLANDO	536	2840	2753
PENSACOLA	462	2491	2472
TALLAHASSEE	428	2372	2368
TAMPA	526	3020	2876
WEST PALM BEACH	484	3114	3072
GEORGIA			
ATHENS	292	1943	1664
ATLANTA	266	1717	1532
AUGUSTA	355	2196	1914
COLUMBUS	400	2509	2044
MACON	397	2459	2181
ROME	305	1990	1565
SAVANNAH	421	2511	2170

State and station	Current season		
	This month	Period January through this month	Normals January through this month
HAWAII			
HILO	382	2911	2296
HONOLULU	505	3661	3175
KAHULUI	446	3079	2806
LIHUE	456	3078	2799
IDAHO			
BOISE	61	822	708
LEWISTON	49	1012	657
POCATELLO	35	519	437
ILLINOIS			
CAIRO U	290	2183	1751
CHICAGO O HARE	76	1108	652
CHICAGO MIDWAY	83	1216	906
MOLINE	73	1068	877
PEORIA	88	1110	951
ROCKFORD	48	847	703
SPRINGFIELD	134	1368	1095
INDIANA			
EVANSVILLE	232	1757	1339
FORT WAYNE	108	1028	739
INDIANAPOLIS	175	1357	961
SOUTH BEND	74	992	687
IOWA			
BURLINGTON	89	1129	974
DES MOINES	86	1341	910
DUBUQUE	30	685	596
SIOUX CITY	55	862	923
WATERLOO	23	673	665
KANSAS			
CONCORDIA	143	1372	1275
DODGE CITY	231	1829	1384
GOODLAND	106	887	916
TOPEKA	209	1549	1331
WICHITA	254	1817	1629
KENTUCKY			
COVINGTON	181	1225	1063
LEXINGTON	232	1501	1174
LOUISVILLE	238	1692	1241
LOUISIANA			
ALEXANDRIA	455	2669	2069
BATON ROUGE	447	2597	2400
LAKE CHARLES	456	2522	2508
NEW ORLEANS	463	2739	2474
SHREVEPORT	419	2314	2376
MAINE			
CARIBOU	1	223	128
PORTLAND	19	308	252
MARYLAND			
BALTIMORE	229	1457	1094
MASSACHUSETTS			
BLUE HILL OBS R	45	583	457
BOSTON	75	891	661
WORCESTER	32	425	387
MICHIGAN			
ALPENA	9	257	208
DETROIT	106	1053	733
DETROIT METRO	94	873	646
FLINT	62	656	432
GRAND RAPIDS	44	714	569
HOUGHTON LAKE	5	354	250
LANSING	56	719	529
MARQUETTE U	0	229	216
MUSKEGON	28	520	463
SAULT STE MARIE	0	86	139
MINNESOTA			
DULUTH	0	122	176
INTERNATIONAL FALLS	0	187	176
MINNEAPOLIS	19	691	578
ROCHESTER	26	548	467
ST CLOUD	6	428	426
MISSISSIPPI			
JACKSON	409	2468	2190
MERIDIAN	433	2411	2119
MISSOURI			
COLUMBIA REGIONAL	177	1419	1239
KANSAS CITY	147	1392	1383
ST JOSEPH	136	1411	1298
ST LOUIS	190	1663	1434
SPRINGFIELD	238	1677	1341
MONTANA			
BILLINGS	34	545	498
GLASGOW	6	321	438
GREAT FALLS	20	293	332
HAVRE	14	371	395
HELENA	13	225	256
KALISPELL	0	129	117
MILES CITY	33	685	746
MISSOULA	3	295	188

State and station	Current season		
	This month	Period January through this month	Normals January through this month
NEBRASKA			
GRAND ISLAND	77	1105	1025
LINCOLN	91	1250	1133
NORFOLK	73	1034	915
NORTH PLATTE	64	720	802
OMAHA	105	1362	1154
OMAHA (NORTH) WSFO	76	1092	935
SCOTTSBLUFF	90	945	666
VALENTINE	57	732	731
NEVADA			
ELKO	48	636	342
ELY	14	198	207
LAS VEGAS	476	3119	2801
RENO	32	500	329
WINNEMUCCA	27	741	407
NEW HAMPSHIRE			
CONCORD	38	488	349
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	168	1009	864
ATLANTIC CITY U	200	1027	825
NEWARK	146	1207	1013
TRENTON U	149	1158	958
NEW MEXICO			
ALBUQUERQUE	141	1328	1309
CLAYTON	130	985	759
ROSWELL	408	2382	1533
NEW YORK			
ALBANY	53	574	574
BINGHAMTON	33	434	369
BUFFALO	45	573	437
NEW YORK U	159	1263	1054
NEW YORK KENNEDY	127	886	853
NEW YORK LA GUARDIA	130	1097	1038
ROCHESTER	50	661	531
SYRACUSE	49	520	551
NORTH CAROLINA			
ASHEVILLE	146	999	857
CAPE HATTERAS R	374	1858	1461
CHARLOTTE	294	1866	1546
GREENSBORO	214	1617	1312
RALEIGH	245	1657	1357
WILMINGTON	391	2198	1869
NORTH DAKOTA			
BISMARCK	11	367	487
FARGO	8	487	473
WILLISTON	6	410	422
OHIO			
AKRON	71	892	628
CINCINNATI ABBE OB	202	1410	1166
CLEVELAND	84	694	606
COLUMBUS	139	1066	801
DAYTON U	153	1196	923
MANSFIELD	96	759	808
TOLEDO	77	784	678
YOUNGSTOWN	89	704	518
OKLAHOMA			
OKLAHOMA CITY	395	2112	1808
TULSA	327	2296	1871
OREGON			
ASTORIA	0	18	13
BURNS U	27	451	289
EUGENE	12	251	239
MEDFORD	77	837	562
PENDLETON	16	725	656
PORTLAND	10	375	300
SALEM	5	261	232
SEXTON SUMMIT R	11	291	137
PACIFIC AREA			
GUAM TAGUAC R	428	3783	3735
JOHNSTON	496	3855	3782
KOROR R	524	4668	4472
KWAJALEIN	555	4738	4609
MAJURO	528	4445	4414
PAGO PAGO	411	4254	3967
PONAPE R	499	4593	4238
TRUK MOEN ISLAND	508	4650	4395
WAKE	541	4093	4056
YAP R	466	4393	4417
PENNSYLVANIA			
ALLENTOWN	115	980	766
ERIE	44	449	373
HARRISBURG	140	1049	1017
PHILADELPHIA	175	1228	1091
PITTSBURGH	72	619	640
SCRANTON	59	563	601
WILLIAMSPORT	119	857	692
RHODE ISLAND			
BLOCK ISLAND	65	491	359
PROVIDENCE	85	821	532

State and station	Current season		
	This month	Period January through this month	Normals January through this month
SOUTH CAROLINA			
CHARLESTON	417	2441	[illegible]
CHARLESTON U	470	2670	[illegible]
COLUMBIA	318	2126	1995
GRNVLLE-SPRTNBRG	289	1904	1530
SOUTH DAKOTA			
ABERDEEN	19	[illegible]	566
HURON	44	795	711
RAPID CITY	51	574	657
SIOUX FALLS	40	654	713
TENNESSEE			
BRISTOL	163	[illegible]	1078
CHATTANOOGA	[illegible]	2077	1584
KNOXVILLE	293	1787	1521
MEMPHIS	426	2620	1949
NASHVILLE	281	1991	1641
OAK RIDGE	177	1245	1333
TEXAS			
ABILENE	534	2500	2334
AMARILLO	287	1678	[illegible]
AUSTIN	572	2867	[illegible]
BROWNSVILLE	585	3374	3332
CORPUS CHRISTI	621	3226	3076
DALLAS FT WORTH	505	2897	2435
DEL RIO	630	3080	3115
EL PASO	[illegible]	2197	2037
GALVESTON	499	2630	2664
HOUSTON INTERCON	456	2497	[illegible]
LUBBOCK	379	1991	1609
MIDLAND	516	2651	2140
PORT ARTHUR	551	2943	2563
SAN ANGELO	562	2774	2548
SAN ANTONIO	525	2729	2765
VICTORIA	551	2898	2835
WACO	628	3181	2669
WICHITA FALLS	502	2553	2482
UTAH			
MILFORD	67	722	668
SALT LAKE CITY	123	1106	916
VERMONT			
BURLINGTON	27	507	396
VIRGINIA			
LYNCHBURG	167	1296	[illegible]
NORFOLK	347	1884	1403
RICHMOND	289	1763	1326
ROANOKE	185	1453	1018
WALLOPS ISLAND	228	1300	1081
WASHINGTON			
OLYMPIA	1	109	101
QUILLAYUTE	0	17	8
SEATTLE	1	175	183
SEATTLE-TACOMA	4	232	129
SPOKANE	0	472	388
STAMPEDE PASS R	0	101	16
WALLA WALLA U	52	977	856
YAKIMA	4	639	479
WEST INDIES			
SAN JUAN P.R.	487	4117	3721
WEST VIRGINIA			
BECKLEY	77	605	484
CHARLESTON	180	1211	1036
ELKINS	91	481	389
HUNTINGTON	156	1350	1078
PARKERSBURG U	178	1202	1025
WISCONSIN			
GREEN BAY	5	534	386
LA CROSSE	33	776	683
MADISON	10	622	454
MILWAUKEE	20	564	444
WYOMING			
CASPER	31	491	458
CHEYENNE	29	252	327
LANDER	34	410	383
SHERIDAN	16	316	446

STORM SUMMARY

SEPTEMBER 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama	3	1			4							4																5	
Alaska												5																5	
Arizona												5				4												5	
Arkansas	4	2	1	3	5			3							1	3													
California *																													
Colorado *																													
Connecticut															1	5												5	
Delaware																4												2	
Florida	1	1			4						1	4		2	13	4												5	
Georgia	2	1		1	5							3				4												3	
Hawaii *																													
Idaho *																													
Illinois	3	2		3	5			6	6		12	7	2			6										1			
Indiana								2	2			6	7																
Iowa	2	1			4			5	5			5		2	1	5												5	5
Kansas							1	6	5			5		1		4										5		6	5
Kentucky												4	4																
Louisiana	9	4		3	6							7	4																
Maine *																													
Maryland & DC												4				3												4	4
Massachusetts																4													
Michigan	4	3		1	5				C			6	C			6												5	C
Minnesota	1	1			5			4	4	1		5	4	2	4													6	4
Mississippi	3	3			5				2			5		2	1	5												3	2
Missouri	1	1			5			5	4			5	4	1		5										26	2	8	7
Montana *																													
Nebraska	5	3			5			4	7			6	4		1	5												4	
Nevada *																													
New Hampshire *																													
New Jersey	1	1			4									1	4	5													
New Mexico	1	1			5			5	2			3	2		1														
New York	3	2		1	6						1	°4	C		2	4												°6	C
North Carolina	1	1			4										4													5	
North Dakota								5	5			6	5															2	2
Ohio										1		5			25	2													
Oklahoma								4	5			5				5												3	
Oregon *																													
Pacific																												2	2
Pennsylvania	5	2		9	7						1	5				4										2		5	
Puerto Rico *																													
Rhode Island *																													
South Carolina	1	1			4							4	3														2	4	3
South Dakota	1	1			5			4	5			4	4			4	4											?	?
Tennessee	1	1			3							5			2													4	
Texas	12	6			4		1	3	3		4	5	2	1	2	2	2											4	2
Utah *																													
Vermont *																													
Virginia								3	3			4		1		4												4	
Virgin Islands *																													
Washington *																													
West Virginia *																													
Wisconsin	1	1			2			2	2		3	5	2	1		2													
Wyoming	1	1																											

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1977

Herbert J. Thompson, Office of Hydrology

Flash flooding again dominated the flood scene over the country during September, headed by the disastrous flooding in the Kansas City metropolitan area, which took 25 lives and caused losses estimated at $90 million. Two flash flood events in northeastern Minnesota caused substantial damage, and severe flash flooding occurred in Greenville County, South Carolina. Widespread river and flash flooding occurred in portions of the lower Missouri Basin with a record crest stage on Stranger Creek at Tonganoxie, Kansas. Localized flash flooding was reported in a number of streams.

Widespread flooding occurred in western New York where record monthly rainfall totals were reported. Minor to moderate river flooding occurred in several areas, including the upper Susquehanna and Ohio River Basins, the Southeast, Iowa, Illinois, the White and Arkansas Basins, southeast Louisiana, and the Kenai Peninsula in Alaska.

Severe urban flooding occurred in Philadelphia, PA, and Birmingham, AL. Other cities affected by urban flooding included Chicago, IL, Springfield, MO, Redding, CA, and Sioux Falls, SD.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
The storm of the 8th-9th produced rainfall amounts of about 6.5 inches along the Canadian border west of Grand Portage, MN. Bridges over the Flute Reed River were destroyed and summer homes in the Gunflint area were damaged. This storm was preceded by heavy rainfall in late August over the area.	0	365
A second major storm over the same general area of northeastern Minnesota on the 23d-25th caused widespread damage along U. S. Highway 61 between Two Harbors and Grand Marais. Numerous bridges and approaches were damaged in varying degrees at stream crossings along the highway. Record crest stages were reported on streams in the area, including the Baptism, Poplar, Pigeon, Knife, and Caribou Rivers. Monthly rainfall totals ranged up to 10 inches above normal in the Grand Marais - Grand Portage area with amounts of over 6 inches from the September 23-25 storm.	0	1,500
Widespread flooding occurred in western New York State the latter half of the month due to record rainfall, which totaled over 10 inches for the period at many locations. The most serious flooding occurred in the suburbs of Buffalo along Tonawanda Creek and its tributaries. Damages to basements, roads, and crops were estimated at $1 million. No stage reports are received from this area. Moderate flooding occurred in Amherst along Ellicott Creek on the 26th with losses of $200,000. Losses of $513,000 were reported along Cayuga Creek on the 26th with most damage in the towns of Lancaster and Cheektowaga. Losses of $125,000 were also reported in Cheektowaga on the 26th from Scajaquada Creek. One or more periods of minor flooding occurred along the Genesee River and Oatka, Black, Cazenovia, Cattaraugus and Buffalo Creeks.	0	1,838
ATLANTIC SLOPE DRAINAGE		
Heavy localized rainfall occurred over the Canaan-Norfolk area of northwestern Connecticut late on the 5th. Amounts of 3.41 inches at Norfolk and 2.85 inches at Colebrook Dam fell in less than 3 hours and a report of about 7 inches in 1 hour was received by the Corps of Engineers from that area. The Blackberry River rose an	0	50

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
estimated 15 feet at Canaan washing out the Furnace Bridge stranding people on the south side of the river. The Ashpotag cut two state highway bridges at Norfolk. Flash flooding on smaller streams washed out roads and a bridge. Several families had to be evacuated from their homes. There are no reporting stations in the area.		
Severe urban flooding was reported in Philadelphia on the 20th and 27th. Amounts of 4 inches in a short time were unofficially reported for both storms. A drowning resulted in both storms when the victims were swept under by fast moving water at intersections.	2	N.A.
In the Susquehanna Basin excessive rainfall occurred during the last half of September over the headwaters of the basin in southern New York and northeastern Pennsylvania. Totals for the period ranged from 6 to 10 inches with amounts of 1 to 2 inches on the 13th-14th, 16th and 18th and 1 to 3 inches or more on the 19th-20th and 24th-26th. One or more periods of generally minor flooding occurred along the Tioughnioga, Chenango, and the Susquehanna River from Unadilla, NY, to Towanda PA. Actual damages were light but considerable effort and expense were incurred in flood protection efforts such as evacuation of river front homes and closing of flood gates.	0	N.A.
In the southern portion of the drainage the remnants of Tropical Storm "Babe" caused excessive amounts of rainfall in the mountainous areas of the Carolinas on the 7th-8th. Amounts of 7 to 9 inches were reported in the mountains of northwestern South Carolina with 5 to 6 inches in the foothills. Severe flash flooding occurred on smaller streams in Greenville County, South Carolina, with losses of $156,000. About 1,000 acres of farmland were flooded, 18 people were evacuated, and damage occurred to residences, roads, bridges, culverts, utilities, and a church campground. Losses in Pickens County were $6,000. Minor flooding was reported on several larger streams, including the Cape Fear and Neuse Rivers in North Carolina and the Broad and Reedy Rivers in South Carolina.	0	162
EAST GULF OF MEXICO DRAINAGE		
Severe urban flooding occurred in the Birmingham metropolitan area as the remnants of Hurricane "Babe" caused rainfall of up to 6 inches the night of the 6th. Losses of $642,000 to private property and $13,000 to public property were estimated with damage to 108 automobiles, 112 mobile homes, 232 apartments, and 275 houses. No stream flooding was reported.	0	655
UPPER MISSISSIPPI BASIN		
General rainfall with locally heavy amounts across central Iowa into northern Illinois on the 17th-18th caused minor flooding on the lower Wapsipinicon and upper Iowa Rivers in Iowa and the upper Illinois River in Illinois. The U.S. Geological Survey reported the highest stage in 21 years of record on Bear Creek with 7.8 inches of rain recorded at Ladora, IA. Cropland along Bear Creek was flooded for about 36 hours and roads were closed.	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

SEPTEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN		
Widespread river and flash flooding occurred over a large portion of the lower Missouri Basin. Areas affected included south central and southeast Nebraska into southwestern Iowa and northeastern Kansas into northwestern Missouri. Two periods of heavy rainfall were involved. The first occurred late in August and the first few days of September while the second and more damaging occurred September 12-13. Details of areal flooding are given below.		
In Nebraska substantial losses were reported in the south central area on the 11th-12th with amounts of $333,000 in Nuckolls County, $131,000 in Webster County, and $252,000 in Adams County. Although only minor flooding occurred along the Republican River, losses of $29,000 occurred in Superior and $22,000 in Guide Rock from local stream flooding. In Superior, 20 families were evacuated and a bridge was damaged. In Adams County the city of Hastings incurred losses of $77,000. Elsewhere in Nebraska Wahoo Creek crested 7 feet over flood stage at Wahoo and the Nemaha River 9 feet over flood stage at Falls City. Minor to moderate flooding occurred along the South Loop, Little Blue, and Big Blue Rivers and Turkey and Lincoln Creeks.	1	716
In southwest Iowa the most serious flooding was from the early September storm. A 24-hour amount of 4.5 inches of rain was recorded on the 2d near Lyman in the Nodaway Basin. The Nodaway River crested 5 feet over flood stage at Clarinda. The Nishnabotna River crested 8 feet over flood stage at Hamburg on August 31 and more than 7 feet over flood stage there on the 4th.	0	N.A.
On tributaries in northwest Missouri above Kansas City the major flooding resulted from the storm of the 12th-13th. Crests nearly 10 feet over flood stage occurred on the Little Platte River at Smithville and the Platte River at Tracy. Minor to moderate flooding occurred on the Tarkio, 102, and Platte Rivers early in the month.	0	N.A.
Major flooding resulted in northeast Kansas from the storm of the 12th-13th. A record crest of 28.86 feet was reported on Stranger Creek near Tonganoxie. The previous record of 28.7 feet occurred in October 1961. Flood stage at Tonganoxie is 22 feet. Rainfall amounts to 4 to 5 inches occurred the night of the 11th and again over the same area the evening of the 12th with widespread flash flooding. Among the larger streams affected were the Black Vermillion River which crested more than 10 feet over flood stage at Frankfort; Soldier Creek cresting 9 feet over flood stage at Topeka; and the Delaware River with 14 feet of flooding at Muscotah. Losses by county were: Nemaha, $330,000; Brown $227,000; Soniphan, $95,000; Atchison $260,000; Shawnee $57,000; Leavenworth, $3.5 million; Wyandotte; $2.2 million; Jackson, $1 million; and Jefferson, $1 million. Losses of four lives and $15.5 million in property in Johnson County are included in the greater Kansas City area totals.	1	8,800
The devastating flash and urban flooding in the Kansas City metropolitan area on the 12th-13th resulted from two separate 6-hour rain events occurring within a 36-hour period. Amounts of 6 to 7 inches fell in a 6-hour period with each storm. The recurrence interval of amounts such as these would be more than 100 years in either case. Totals ranged up to over 16 inches for the 36 hour period. These storms were unique not only in their amounts of rainfall but in that they occurred over the same small area and	25	90,000

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN-Cont'd		
that there were significant differences in the "cause" of the two events. If either storm had maximized a few miles away only moderate flooding would have resulted. The hardest hit area was the famous Plaza Shopping Center along Brush Creek in southwest Kansas City. The U.S. Geological Survey reported a record stage of 22.2 feet with a peak discharge of 1,122 c.f.s. per square mile on Brush Creek and record stages and discharges on several other small streams in the area. Although the Blue River crested nearly 14 feet over flood stage at the Bannister Road gage, it was well below the record flood of 1961. Of the 25 deaths reported, 17 were either drivers or passengers in automobiles.		
Moderate flooding occurred in the lower Missouri Basin below the Kansas City area as a result of the storms of the 12th-13th. The Fishing River crested 4 feet over flood stage at Mosby, MO. From 3.5 to over 9 feet of flooding occurred along the Grand River from Chillicothe, MO, to the mouth and the lower Blackwater River crested 8 feet over flood stage at Blue Lick, MO. As a result of the heavy tributary inflow discussed above, flooding occurred at most points along the main stem of the Missouri from St. Joseph, MO, to the mouth. The greatest flooding was in the Napoleon to Boonville reach where crests of about 5 to more than 8 feet over flood stage were reported.	0	N.A.
OHIO RIVER BASIN		
The record rainfall in western New York the latter half of the month with totals of over 10 inches at many locations caused minor flooding at several locations in the headwaters of the Ohio. Streams affected included the Chadakoin River at Falconer, NY, Conewango Creek at Russell, PA, and the Allegheny River at Olean, NY.	0	N.A.
Rainfall of 3 to 4 inches over the upper Wabash Basin on the 12th-13th caused minor flooding along the Wabash from Lafayette to Montezuma, IN.	0	N.A.
Heavy rainfall resulted from the remnants of Hurricane "Babe" on the 7th-8th with 48-hour totals of up to 9 inches in western North Carolina and up to 7.6 inches in eastern Tennessee. Up to 4 feet of flooding occurred along the French Broad River in North Carolina and 2 feet of flooding on South Chickamauga Creek in Tennessee. Flooding was reported on the Paint Rock and Flint Rivers in northern Alabama and the Emory River in Tennessee, but no stage reports were received. Heavy rains occurred again on the 15th-16th with 24-hour totals of up to 6.5 inches over the Chickamauga Creek Basin with only minor flooding, and about 4 inches over the French Broad Basin with flooding similar to that earlier in the month. Principal damage was to secondary roads and drainage systems. The TVA reported that the monthly average rainfall over the Tennessee Basin above Kentucky Dam of 7.86 inches was the highest September rainfall in 88 years of record.	0	N.A.
WHITE BASIN		
September was an unusually wet month over the basin with monthly totals generally 5 to 6 inches above normal, and at Corning, AR, nearly 9 inches above the normal 4.5 inch total. Most of this rain fell the last week of the month, causing minor flooding on	1	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WHITE BASIN-Cont'd		
the lower Black River and extended flooding on the Cache River, which crested 2 feet over flood stage early in October. Bottomland flooding also occurred along the lower White River, although flood stages were not exceeded. Losses were to field crops, mainly soybeans. Flash flooding occurred in Springfield, MO, on the 26th from 4.5 inches of rain. There was one fatality.		
ARKANSAS BASIN		
Rains of 2 to 5 inches over southeastern Kansas on August 31 - September 1 caused about 3 feet of flooding on the Ninnescah River at Peck, KS, and more than 7 feet of flooding on the Chikaskia River at Corbin, KS. Minor flooding resulted on the main stem of the Arkansas at Arkansas City, KS.	0	N.A.
LOWER MISSISSIPPI BASIN		
Southeast Louisiana had much above normal rainfall during September with the greatest monthly total recorded at Pine Grove at 17.75 inches. Much of the excess was due to Tropical Storm "Babe" which caused amounts of 5 to 6 inches over the area on the 5th-6th resulting in flooding on the Amite River with a crest of 18.6 feet at Denham Springs (Flood Stage 25 feet). Minor flooding occurred along the Comite River.	0	N.A.
WEST GULF OF MEXICO DRAINAGE		
Over south Texas surface soil conditions were very dry during the month in general. Rainfall was confined to the first two weeks of the month with the heaviest daily amounts on the 8th and the 13th-14th. Very heavy rainfall occurred on the 13th-14th in southwest Bexar County and northeast Atascosa County. The center of the rain was at Natalia, where 11.50 inches was measured. Nearby Lytle had 7.50 inches, and Lacoste had 7.15 inches. A second center this same night was in the Lavernia-Stockdale area where Lavernia reported 6.00 inches and Stockdale had 7.00 inches. Flooding occurred along the Atascosa River headwaters and along San Miguel Creek. Overbank flooding also occurred along Cibolo Creek in the Lavernia and Stockdale reach. In Natalia several homes were flooded along Fort Ewell Creek. No loss of life occurred with these stream rises. In the Lytle area a train was derailed on a bridge crossing a small stream.	0	50
Flash flooding occurred near Hatch, NM, on the 6th closing U.S. Highway 85, and at Hagerman, NM, on the 29th.	0	N.A.
GULF OF CALIFORNIA DRAINAGE		
Flash flooding occurred in the Tucson, AZ, area on the 10th-11th, flooding several homes and washing out some roads. State Route 76 in southwestern Pina County was closed. Heavy flooding and road washouts occurred in Dune Valley near Yuma, AZ.	0	N.A.
GREAT BASIN		
Urban and flash flooding in South Davis County, Utah, on the 14th,	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT BASIN-Cont'd		
flooded some basements and deposited mud and debris in yards and streets.		
PACIFIC SLOPE DRAINAGE		
At Redding, CA, 6.8 inches of rain on the 18th-20th caused damage to streets and stores.	0	N.A.
ALASKA		
Flooding recurred along the Kenai River this time as the result of the dumping of two glacier dammed lakes (Jokulhlaups). Water from the lake in the Snow River headwaters caused a crest of 14.60 feet at Cooper Landing (Flood Stage 12 feet) on the 6th. This crest moved downstream and coincided with the crest of water released from Skilak Lake to cause a crest of 13.46 feet at Soldotna (Flood Stage 12 feet) on the 9th. This stage was the second highest on record at Soldotna. The highest stage resulted from an ice jam in December 1969. A total of 20 families were evacuated from developments along the river but there was not much additional damage over that caused by the flooding which ended in late August.	0	N.A.
On the weekend of the 24th-25th heavy rainfall was reported at the Indian Mountain Air Force Station. A total of 9.3 inches of rain was recorded in a 72-hour period at the Utopia Creek station. The rainfall was localized as less than a 0.1 inch was reported at Galena to the south, and Bettles to the north. Utopia Creek and Indian River both rose rapidly and although no accurate data are available, unofficial estimates indicates the streams were over bank within 4 hours of the beginning of the rainfall. One road crosses Indian River between the Air Force support camp and radar station; the approaches to the bridge were washed out and the water supply system across the river from the camp was threatened. The power plant came within one foot of being flooded, and a long-time resident of the area reported he had never seen rainfall or river stages like this in his entire time there. No stage reports are received from these streams.		
PUERTO RICO		
A number of tropical waves moved through Puerto Rico and the Virgin Islands during the month with an average frequency of every three to five days. The heaviest rains associated with a tropical wave passage occurred on the 6th bringing some intensities of 3 to 4 inches in 3 hours. In Yabucoa a total of 4.75 inches was reported, with a duration of about four hours. This was sufficient to bring the Guayanes River over its banks at the entrance to the town of Yabucoa and made the road entering town impassable for several hours. By the end of the month agricultural drought conditions had ended and the meteorological drought had greatly diminished.		

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

River and station	Flood stage	Above flood stages—dates From	Above flood stages—dates To	Crest Stage	Crest Date
	Ft			*Ft*	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Cattaraugus Creek:					
Gowanda, NY	10	20	20	[illegible]	[illegible]
Cazenovia Creek:					
Ebenezer, NY	11	20 25	20 25	[illegible] 11.8	20 25
Buffalo Creek:					
Gardenville, NY	7	24	25	8.4	25
Ellicott Creek:					
Williamsville, NY	8	25	26	9.23	26
Cayuga Creek:					
Lancaster, NY	8	24	25	10.1	25
Oatka:					
Garbutt, NY	5	19 25	23 28	6.3 6.5	21 26
Black:					
Churchville, NY	5	26	28	6.9	26
Genesee:					
Wellsville, NY	10	1 25	1 25	10.50 10.24	1 25
Portageville, NY	17	19 24 25	19 24 25	17.5 18.9 18.0	19 24 25
Avon, NY	33	19 20 25	19 20 25	34.0 33.4 34.3	19 20 25
ATLANTIC SLOPE DRAINAGE					
Tioughnioga:					
Whitney Point, NY	12	19 20 24	19 20 25	12.7 12.3 13.5	19 20 25
Chenango:					
Sherbourne, NY	8	20	21	9.04	21
Chemung:					
Chemung, NY	12	25	26	13.84	25
Susquehanna:					
Unadilla, NY	11	21	21	11.79	21
Bainbridge, NY	13	20 26	22 27	16.05 14.28	21 26
Conklin, NY	11	20 25	23 28	12.46 14.34	22 26
Vestal, NY	18	25	27	20.14	25
Towanda, PA	16	26	26	16.45	26
Neuse:					
Smithfield, NC	13	9	10	15.9	9
Kinston, NC	14	12	13	14.3	13
Cape Fear:					
Huske Lock & Dam, NC	42	10	11	[illegible]	10
Elizabethtown, NC	20	11	12	20.6	11
Broad:					
Blair, SC	14	17	18	[illegible]	18
Reedy:					
Greenville, SC (Westfield St. Gage)	8	8	8	8.0	8
UPPER MISSISSIPPI RIVER BASIN					
Wapsipinicon River:					
De Witt, IA	10	18	[illegible]	[illegible]	19
Iowa River:					
Marshalltown, IA	13	18	18	[illegible]	18
Illinois River:					
Morris, IL	13	18	17	13.60	19
La Salle, IL	20	19	[illegible]	20.35	19
Havana, IL	14	[illegible]	[illegible]	14.5	[illegible]

River and station	Flood stage	Above flood stages—dates From	Above flood stages—dates To	Stage	Date
	Ft			*Ft*	
MISSOURI RIVER BASIN					
South Loup River:					
Ravenna, NE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible], NE	15	Aug. [illegible]	[illegible]	20.5	[illegible]
Ithaca, NE	19	[illegible]	[illegible]	21.3 21.8	[illegible]
West Nishnabotna River:					
[illegible], IA	18	[illegible]	[illegible]	[illegible]	[illegible]
Nishnabotna River:					
Hamburg, IA (Rural [illegible])	18	Aug. [illegible] [illegible]	[illegible] [illegible]	24.0 23.2 16.8	[illegible]
Nemaha River:					
Falls City, NE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tarkio River:					
Fairfax, MO	[illegible]	Aug. [illegible]	[illegible]	[illegible]	[illegible]
Nodaway River:					
Clarinda, IA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
One Hundred and Two River:					
Maryville, MO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Little Platte River:					
Smithville, MO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Platte River:					
Agency, MO	[illegible]	[illegible]	[illegible]	24.14 22.82	[illegible]
Tracy, MO	19	[illegible]	[illegible]	24.50 28.58	[illegible]
Republican River:					
Hardy, NE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lincoln Creek:					
Seward, NE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Turkey Creek:					
[illegible], NE	11	16	[illegible]	[illegible]	[illegible]
Little Blue River:					
Fairbury, NE	11	[illegible]	[illegible]	11.6	[illegible]
Hollenberg, KS	11	[illegible]	[illegible]	14.51	[illegible]
Hanover, KS	[illegible]	[illegible]	[illegible]	14.50	[illegible]
Black Vermillion River:					
Frankfort, KS (Hway 9)	[illegible]	[illegible]	[illegible]	23.24 29.44	[illegible]
Big Blue River:					
Seward, NE	[illegible]	[illegible]	[illegible]	23.4	[illegible]
Crete, NE	[illegible]	[illegible]	[illegible]	20.8	[illegible]
Blue Rapids, KS	[illegible]	[illegible]	[illegible]	1,105.47	[illegible]
Soldier Creek:					
Topeka, KS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Delaware River:					
Muscotah, KS	[illegible]	Aug. [illegible]	[illegible]	[illegible] 30.82	[illegible]
Stranger Creek:					
Easton, KS	[illegible]	[illegible]	[illegible]	25.0 [illegible]	[illegible]
Tonganoxie, KS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kansas River:					
Kansas City, KS (23d St. Branch)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Blue River:					
Kansas City, MO (Bannister Road)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Little Blue River:					
Lake City, MO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

River and station	Flood stage	Above flood stages —dates From	To—	Crest Stage	Date
	Ft.			Ft.	
MISSOURI RIVER BASIN-Cont'd					
Fishing River:					
Mosby, MO	20	12	13	24.0	12
Grand River:					
Chillicothe, MO	24	13	15	27.5	14
Sumner, MO	26	13	16	31.44	15
Brunswick, MO	12	3 13	8 18	16.00 21.46	6 15
Blackwater River:					
Blue Lick, MO	25	13	20	33.10	16
Missouri River:					
St. Joseph, MO	17	1 3 12	2 6 14	18.3 19.1 19.2	1 3 13
Leavenworth, KS	19	12	14	20.74	13
Kansas City, MO	22	13	14	22.80	13
Napoleon, MO	17	13	15	24.6	14
Waverly, MO	20	2 13	7 17	21.07 28.50	6 14
Glasgow, MO	25	14	17	30.4	15
Boonville, MO	21	13	17	26.55	15
Jefferson City, MO	23	14	18	25.20	16
Hermann, MO	21	14	18	24.4	16
St. Charles, MO	25	14	19	27.65	17
OHIO BASIN					
Chadakoin:					
Falconer, NY	3.2	20 24	24 30	3.8 E 4.4	20 26
Conewango Creek:					
Russell, PA	8	21	29	9.0	26
Allegheny:					
Olean, NY	10	20 25	21 25	10.4 10.0	20 25
Wabash:					
Lafayette, IN	11	14	16	12.3	16
Covington, IN	16	15	17	16.5	15
Montezuma, IN	14	15	18	15.7	16
French Broad:					
Rosman, NC	8	7 16	7 16	11.64 11.32	7 16
Blantyre, NC	17	8 17	9 18	17.9 18.8	9 18
South Chickamauga Creek:					
Chickamauga, TN	10	7 16	8 17	12.1 10.6	8 16
WHITE BASIN					
Cache:					
Patterson, AR	8	20	1	9.92	Oct 4
Black:					
Black Rock, AR	14	26	26	14.5	26
ARKANSAS BASIN					
Ninnescah:					
Peck, KS	17	1	2	19.9	1
Chikaskia:					
Corbin, KS	10	1	2	#17.2	2
Blackwell, OK	26	3	4	28.1	3
Arkansas:					
Arkansas City, KS	17	3	4	19.99	3

River and station	Flood stage	Above flood stages —dates From—	To—	Crest Stage	Date
	Ft.			Ft.	
LOWER MISSISSIPPI BASIN					
Comite:					
Comite, LA	18	6	6	18.24	6
Amite:					
Denham Springs, LA	25	7	8	28.6	7
Port Vincent, LA	9	8	8	9.12	8
ALASKA					
Kenai:					
Cooper Landing	12	2	10	14.60	6
Soldotna	12	7	11	13.46	9

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1977

ALBANY, NY
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	29	86	13.6	12.3	19	.9
1000	24	162	13.3	10.1	19	1.3
950	29	576	12.7	9.5	25	3.1
900	29	1,029	10.5	8.0	27	4.7
850	28	1,505	8.3	5.4	28	6.7
800	28	2,005	6.5	.8	28	8.3
750	28	2,533	4.5	-4.2	28	10.4
700	28	3,093	1.7	-7.0	27	12.1
650	28	3,688	-.6	-13.6	27	14.0
600	28	4,324	-3.8	-16.0	27	15.9
550	28	5,006	-8.0	-21.5	27	17.0
500	28	5,740	-12.4	-26.1	27	18.6
450	28	6,537	-17.7	-30.9	28	20.4
400	28	7,408	-23.9	-35.9	28	23.2
350	28	8,372	-31.1	-43.4	28	26.2
300	28	9,443	-39.4	-48.4	28	27.1
250	27	10,662	-48.6		28	29.8
200	27	12,103	-56.3		28	32.5
175	27	12,948	-58.1		28	30.4
150	26	13,924	-59.3		28	26.2
125	26	15,063	-60.5		28	21.0
100	26	16,450	-61.[illegible]		28	15.5
80	25	17,845	-59.9		28	9.6
70	25	18,682	-58.6		28	6.4
60	25	19,654	-57.0		28	5.0
50	25	20,815	-55.1		29	3.2
40	23	22,240	-53.9		28	1.4
30	23	24,096	-51.6		11	.8
25	22	25,279	-49.9		11	.6
20	22	26,745	-48.1		11	.5
15	20	28,654	-46.0		26	1.2
10	8	31,351	-42.0			
7						

ALBUQUERQUE, NM
840 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	1,619	15.1	8.5	06	.3
800	30	2,031	16.9	4.9	27	2.0
750	30	2,578	13.5	2.5	27	4.0
700	30	3,155	9.4	.0	27	6.4
650	30	3,766	5.2	-4.3	26	6.9
600	30	4,415	.7	-8.3	26	8.0
550	30	5,108	-3.5	-15.5	26	9.[illegible]
500	30	5,855	-8.4	-21.8	26	11.0
450	30	6,665	-13.2	-26.5	26	13.4
400	29	7,550	-19.7	-31.1	26	15.6
350	29	8,531	-26.8	-37.6	26	16.8
300	29	9,622	-35.1	-45.8	26	20.0
250	29	10,867	-44.8		26	22.7
200	28	12,327	-54.[illegible]		27	25.9
175	28	13,173	-59.2		27	25.4
150	28	14,129	-63.9		27	21.5
125	28	15,234	-68.4		27	15.8
100	27	16,563	-71.0		27	10.5
80	27	17,897	-67.1		30	4.3
70	27	18,709	-64.1		01	1.4
60	27	19,662	-60.4		07	1.7
50	27	20,806	-58.2		09	2.9
40	27	22,217	-56.3		09	3.8
30	25	24,052	-53.[illegible]		08	4.9
25	25	25,228	-52.1		08	5.6
20	24	26,684	-49.9		09	5.6
15	22	28,583	-46.8		09	5.8
10	17	31,297	-42.8		09	7.4
7	6	33,739	-39.[illegible]			

AMARILLO, TX
891 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	1,095	17.3	10.6	22	1.9
850	30	1,500	20.3	8.1	24	6.3
800	30	2,021	17.8	5.3	25	6.7
750	30	2,571	14.2	1.9	26	6.2
700	30	3,149	10.0	-2.1	26	5.9
650	30	3,761	6.1	-5.6	26	5.7
600	30	4,412	1.8	-11.1	26	6.0
550	30	5,107	-2.9	-15.6	26	6.7
500	30	5,855	-8.1	-20.8	27	7.9
450	30	6,666	-13.2	-26.9	27	9.6
400	30	7,552	-19.8	-33.2	27	10.7
350	30	8,532	-26.7	-38.1	27	13.2
300	30	9,623	-35.3	-45.4	28	14.5
250	30	10,868	-44.7		28	18.7
200	30	12,328	-54.8		28	22.0
175	30	13,173	-59.5		28	22.5
150	30	14,126	-64.5		28	19.7
125	30	15,229	-68.6		28	15.1
100	29	16,560	-69.5		28	[illegible].5
80	28	17,899	-66.7		29	3.6
70	28	18,713	-63.3		06	.4
60	28	19,665	-60.9		10	[illegible].3
50	28	20,807	-58.4		09	2.3
40	28	22,220	-55.7		09	3.1
30	28	24,061	-53.5		08	4.5
25	27	25,240	-51.6		08	5.5
20	26	26,703	-48.8		09	6.[illegible]
15	26	28,607	-46.1		09	6.3
10	22	31,330	-42.5		08	7.3
7	13	33,752	-39.2		10	7.6

* ANCHORAGE, AK
1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	45	9.0	5.3	16	2.1
1000	20	125	10.2	5.6	16	2.4
950	30	508	7.7	3.1	18	3.0
900	30	952	5.3	1.0	18	3.5
850	30	1,417	2.3	-2.0	21	3.1
800	30	1,905	-.5	-4.7	22	3.3
750	30	2,419	-3.1	-7.7	23	3.8
700	30	2,962	-6.1	-12.8	24	3.8
650	30	3,539	-9.4	-17.6	24	4.0
600	30	4,153	-12.8	-24.1	24	5.0
550	30	4,811	-17.3	-28.4	24	5.7
500	30	5,519	-22.0	-32.8	25	6.8
450	30	6,286	-27.4	-37.4	26	7.9
400	30	7,124	-33.2	-41.9	27	10.7
350	30	8,052	-40.1	-44.7	27	12.8
300	30	9,086	-46.6		27	15.[illegible]
250	30	10,283	-51.2		28	19.6
200	30	11,728	-51.9		27	15.3
175	29	12,596	-51.6		28	15.0
150	29	13,596	-51.5		27	12.3
125	29	14,779	-52.0		28	11.2
100	29	16,223	-52.5		27	9.1
80	29	17,663	-52.9		28	6.9
70	29	18,525	-52.8		28	6.7
60	29	19,518	-53.5		29	5.9
50	28	20,689	-54.0		29	5.1
40	28	22,120	-54.2		29	4.6
30	27	23,968	-53.6		29	4.7
25	25	25,149	-52.4		28	5.1
20	24	26,596	-51.2		29	6.4
15	22	28,482	-49.2		29	6.6
10	14	31,189	-44.4		27	12.0

* ANNETTE, AK
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	[illegible]	10.0	8.9	13	.6
1000	[illegible]	[illegible]	10.2	7.9	20	.5
950	30	54[illegible]	8.8	4.7	18	1.4
900	30	995	6.1	1.4	19	1.8
850	30	[illegible]	3.1	-1.9	22	2.2
800	30	[illegible],950	.4	-4.6	23	2.2
750	30	[illegible],465	-2.7	-8.5	24	2.7
700	30	3,009	-5.8	-12.4	26	2.9
650	30	3,587	-9.0	-17.9	27	3.4
600	30	4,202	-12.7	-22.1	27	4.3
550	30	4,86[illegible]	-16.7	-27.1	27	5.[illegible]
500	30	5,57[illegible]	-21.3	-32.4	28	5.[illegible]
450	30	6,341	-26.4	-37.5	28	5.4
400	30	7,182	-32.4	-41.6	29	5.5
350	30	8,113	-39.2	-45.8	29	6.7
300	30	9,150	-46.4		30	8.8
250	30	10,343	-52.4		33	11.0
200	29	11,781	-53.5		31	11.6
175	29	12,642	-52.8		31	10.2
150	29	13,635	-54.2		30	9.3
125	29	14,804	-54.4		30	8.1
100	29	16,233	-54.7		30	6.9
80	28	17,660	-54.7		29	6.2
70	28	18,515	-54.3		29	5.4
60	28	19,503	-54.6		28	5.2
50	28	20,670	-54.6		28	5.0
40	27	22,098	-54.2		28	4.8
30	27	23,945	-53.6		28	5.7
25	25	25,131	-52.2		28	6.6
20	23	26,585	-50.4		27	7.8
15	21	28,472	-48.0		27	9.6
10	17	31,194	-44.2		27	7.4
7	5	33,674	-38.7			

ATHENS, GA
988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	246	19.3	18.5	04	.4
1000						
950	30	585	20.0	16.8	20	1.3
900	30	1,051	18.0	13.8	22	2.7
850	30	1,540	15.5	10.7	24	3.3
800	30	2,053	12.[illegible]	7.4	25	3.2
750	30	2,593	10.2	1.3	25	3.3
700	30	3,164	6.9	-3.6	27	3.9
650	30	3,771	3.7	-6.6	27	4.7
600	30	4,416	-.2	-12.1	27	4.5
550	30	5,108	-3.[illegible]	-16.6	27	5.0
500	30	5,855	-8.2	-22.0	27	5.[illegible]
450	30	6,666	-13.2	-25.2	27	7.2
400	30	7,552	-19.5	-31.8	28	8.6
350	30	8,534	-26.6	-37.7	27	9.5
300	30	9,626	-35.0	-46.2	27	11.3
250	30	10,871	-45.1		27	12.4
200	30	12,324	-56.2		28	13.8
175	30	13,163	-61.2		28	13.4
150	30	14,110	-65.5		28	11.3
125	30	15,209	-68.6		29	[illegible]
100	30	16,545	-68.7		29	4.1
80	30	17,890	-65.[illegible]		31	2.2
70	30	18,706	-62.9		02	1.3
60	30	19,661	-60.5		07	1.8
50	30	20,806	-57.6		07	2.[illegible]
40	30	22,222	-55.4		08	4.0
30	29	24,072	-52.5		08	6.8
25	28	25,254	-50.4		09	7.2
20	28	26,719	-47.9		09	8.6
15	27	28,620	-46.1		08	7.1
10	24	31,341	-42.6		09	9.8
7	6	33,804	-38.6			
5						
4						

* BARROW, AK
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	26	8	.9	-1.4	12	.5
1000	22	96	.4	-1.3	06	.9
950	26	492	-.9	-2.9	23	1.5
900	26	923	-2.4	-6.6	24	2.5
850	26	1,375	-4.3	-11.6	25	2.9
800	26	1,851	-6.[illegible]	-15.3	25	3.7
750	26	2,353	-9.0	-18.5	25	4.2
700	26	2,885	-11.7	-22.0	25	5.[illegible]
650	26	3,449	-14.8	-24.1	25	[illegible].5
600	26	4,051	-18.5	-27.9	25	6.4
550	26	4,694	-22.[illegible]	-32.6	25	7.1
500	26	5,387	-27.6	-36.9	24	8.1
450	26	6,137	-32.[illegible]	-42.4	25	8.7
400	26	6,955	-38.[illegible]	-44.8	25	9.7
350	26	7,862	-45.0		25	11.6
300	26	8,875	-51.0		25	12.[illegible]
250	26	10,054	-53.1		25	11.7
200	24	11,497	-49.[illegible]		25	10.8
175	22	12,372	-48.8		25	11.1
150	22	13,385	-48.7		26	10.1
125	22	14,585	-48.7		26	[illegible].7
100	21	16,040	-49.4		26	9.[illegible]
80	20	17,496	-50.4		26	8.8
70	20	18,366	-50.9		27	8.5
60	19	19,364	-51.8		27	8.0
50	18	20,542	-53.3		26	7.7
40	14	21,962	-54.3		27	7.6
30	12	23,808	-54.3		28	[illegible].6
25	8	24,987	-54.1			

BARTER ISLAND, AK
1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	15	1.3	.2	13	.9
1000	27	90	2.4	.9	15	.8
950	30	496	2.7	-3.6	26	.[illegible]
900	30	932	.7	-6.2	27	1.8
850	30	1,389	-1.5	-8.6	26	3.0
800	30	1,870	-4.0	-11.2	26	3.9
750	30	2,377	-6.7	-14.1	26	4.6
700	30	2,913	-9.5	-17.9	25	[illegible].4
650	30	3,482	-12.7	-22.7	25	5.9
600	30	4,089	-16.5	-26.9	26	6.8
550	30	4,737	-20.9	-30.[illegible]	26	8.0
500	30	5,435	-25.6	-34.[illegible]	25	9.[illegible]
450	30	6,191	-30.7	-39.1	25	10.7
400	30	7,017	-37.0	-43.2	25	12.2
350	30	7,930	-43.4	-43.[illegible]	25	15.0
300	30	8,950	-50.0		26	16.6
250	29	10,120	-54.5		25	16.6
200	29	11,557	-51.8		26	13.1
175	29	12,426	-50.3		26	12.2
150	29	13,434	-49.8		26	11.2
125	29	14,627	-50.0		26	10.0
100	29	16,086	-49.9		27	[illegible].3
80	28	17,541	-50.9		28	7.9
70	28	18,409	-51.2		28	8.4
60	28	19,410	-51.9		28	7.3
50	28	20,590	-52.8		28	7.0
40	28	22,027	-53.7		28	[illegible].5
30	28	23,874	-54.0		29	6.1
25	28	25,045	-53.7		29	[illegible].4
20	27	26,480	-53.2		30	6.3
15	26	28,342	-51.6		29	[illegible].1
10	18	31,036	-46.8		29	7.0
7	[illegible]	33,509	-41.4			

BETHEL, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	39	7.4	4.0	22	3.4
1000	21	129	7.1	4.7	25	3.9
950	30	509	4.8	2.9	24	5.9
900	30	949	2.1	.2	24	6.3
850	30	1,409	-.2	-3.7	25	6.7
800	30	1,893	-1.9	-8.0	25	7.3
750	30	2,405	-4.2	-11.5	26	8.1
700	30	2,946	-7.[illegible]	-14.7	26	8.3
650	30	3,520	-10.2	-20.5	26	8.8
600	30	4,133	-13.7	-26.0	26	10.2
550	30	4,789	-17.9	-31.1	26	11.2
500	30	5,495	-22.6	-36.2	26	12.1
450	30	6,261	-27.6	-39.5	26	14.1
400	30	7,098	-33.3	-43.7	26	16.4
350	30	8,027	-39.5	-41.8	26	18.5
300	30	9,063	-46.6		26	20.4
250	30	10,259	-50.[illegible]		26	21.6
200	30	11,713	-50.5		27	19.[illegible]
175	30	12,584	-50.4		27	17.8
150	30	13,590	-50.7		27	15.1
125	30	14,775	-51.7		27	13.[illegible]
100	30	16,221	-52.[illegible]		27	9.9
80	30	17,662	-52.9		27	8.6
70	30	18,524	-53.1		27	6.4
60	29	19,516	-53.3		27	6.2
50	29	20,689	-53.7		28	5.3
40	28	22,123	-54.1		28	4.9
30	28	23,969	-53.7		28	4.3
25	28	25,143	-52.9		28	5.6
20	25	26,594	-51.3		29	4.9
15	18	28,481	-48.9		28	7.0

* BISMARCK, ND
954 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	503	10.3	8.2	08	.2
1000						
950	23	563	10.3	7.9	15	.6
900	30	994	11.4	6.5	24	1.0
850	30	1,472	10.1	3.5	27	2.6
800	30	1,975	8.1	.4	28	4.3
750	30	2,505	4.9	-3.5	28	5.5
700	30	3,065	1.5	-7.3	29	7.9
650	30	3,659	-1.3	-11.7	29	10.1
600	30	4,293	-5.3	-15.9	28	12.0
550	30	4,971	-9.5	-19.3	29	14.7
500	30	5,700	-14.2	-25.3	29	16.1
450	30	6,491	-19.8	-30.5	28	17.3
400	30	7,355	-26.0	-36.7	28	18.8
350	29	[illegible],311	-33.2	-43.3	28	19.9
300	29	9,372	-42.0	-53.1	27	21.9
250	29	10,581	-51.3		27	26.2
200	29	12,015	-55.6		27	27.4
175	29	12,864	-55.9		27	26.9
150	29	13,843	-56.8		27	24.2
125	28	14,997	-57.7		27	20.6
100	28	16,401	-58.2		28	17.1
80	26	17,815	-57.7		27	11.3
70	25	18,662	-57.5		28	8.9
60	23	19,634	-56.9		27	6.6
50	23	20,792	-55.7		28	5.5
40	23	22,219	-54.5		28	4.9
30	23	24,072	-52.1		30	3.3
25	23	25,258	-50.2		30	2.9
20	20	26,718	-48.5		28	1.7
15	20	28,621	-46.0		30	2.8
10	17	31,342	-41.8		28	2.5
7	10	33,810	-38.2			
5	8	36,185	-35.3			
4	5	37,731	-33.5			

BOISE, ID
914 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	871	12.0	2.7	13	1.4
1000						
950						
900	30	997	14.4	2.9	11	.7
850	30	1,480	14.1	-.1	30	1.5
800	30	1,989	10.8	-2.1	26	2.5
750	30	2,523	7.4	-4.7	26	4.3
700	30	3,087	3.3	-7.9	25	7.6
650	30	3,683	-.7	-10.9	25	10.0
600	30	4,318	-5.0	-16.6	25	11.[illegible]
550	30	4,996	-9.6	-21.6	25	12.6
500	30	5,725	-14.7	-27.9	25	13.9
450	30	6,515	-20.1	-32.2	25	16.2
400	30	7,377	-26.5	-37.5	25	17.6
350	30	8,331	-33.2	-43.0	25	19.3
300	30	9,393	-41.4	-49.7	25	21.9
250	30	10,609	-49.[illegible]		25	23.2
200	30	12,052	-54.6		25	25.4
175	30	12,904	-56.0		26	25.0
150	30	13,882	-57.3		25	23.0
125	30	15,032	-58.6		26	19.3
100	30	16,431	-59.[illegible]		26	14.1
80	30	17,830	-59.1		26	9.9
70	30	18,670	-58.1		26	7.6
60	30	19,641	-57.[illegible]		27	4.7
50	30	20,795	-56.1		28	3.4
40	30	22,218	-54.[illegible]		30	2.1
30	30	24,070	-52.8		34	1.9
25	29	25,252	-51.3		36	2.1
20	28	26,715	-49.4		36	1.9
15	26	28,614	-47.0		02	1.9
10	18	31,286	-44.3		09	2.3

BOOTHVILLE, LA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	29	1	25.7	23.7	17	1.5
1000	29	127	25.7	22.9	17	1.[illegible]
950	29	579	22.7	20.1	18	3.[illegible]
900	29	1,049	19.9	16.2	19	3.9
850	29	1,541	17.0	12.2	19	3.7
800	29	2,057	14.[illegible]	8.4	19	3.3
750	29	2,601	11.9	3.2	20	2.3
700	29	3,175	8.5	-1.0	22	1.9
650	29	3,785	5.1	-5.0	23	2.[illegible]
600	29	4,435	1.4	-10.9	23	1.4
550	29	5,130	-2.8	-16.0	25	1.6
500	29	5,879	-7.2	-21.0	28	1.8
450	29	6,693	-12.3	-25.5	31	2.4
400	28	7,582	-18.2	-32.0	31	3.6
350	28	8,569	-25.[illegible]	-37.[illegible]	32	5.2
300	28	9,668	-33.6	-46.0	31	6.1
250	28	10,920	-43.[illegible]		31	6.1
200	28	12,381	-55.3		32	[illegible].3
175	28	13,222	-61.2		31	8.2
150	28	14,166	-66.4		32	7.7
125	28	15,258	-70.3		33	6.2
100	28	16,580	-71.2		34	3.3
80	27	17,908	-67.5		04	2.8
70	27	18,718	-64.4		07	2.7
60	27	19,669	-61.5		08	4.1
50	27	20,807	-58.6		09	6.3
40	25	22,223	-56.2		09	8.4
30	23	24,069	-53.0		09	10.7
25	23	25,249	-51.4		09	12.5
20	22	26,708	-48.8		09	14.5
15	22	28,613	-45.1		09	15.[illegible]
10	14	31,338	-41.1		08	18.0

* BROWNSVILLE, TX
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	7	24.5	22.8	16	1.8
1000	30	107	26.1	24.1	16	3.6
950	30	560	23.5	20.5	16	7.5
900	30	1,032	21.3	15.3	16	7.3
850	30	1,526	18.6	10.4	15	5.6
800	30	2,045	16.1	6.0	13	4.1
750	30	2,591	12.9	1.7	11	2.[illegible]
700	30	3,167	9.6	-.9	09	2.[illegible]
650	30	3,779	6.3	-7.0	07	2.8
600	30	4,431	2.6	-11.2	06	3.8
550	30	5,130	-1.2	-17.3	05	4.0
500	30	5,883	-5.9	-22.1	03	3.7
450	30	6,701	-11.0	-27.6	03	3.5
400	30	7,595	-17.2	-33.1	02	4.9
350	30	8,585	-24.5	-39.7	01	5.7
300	30	9,685	-33.2	-47.1	01	7.3
250	30	10,939	-43.3		36	8.1
200	29	12,405	-54.7		35	9.6
175	29	13,247	-61.0		36	10.0
150	29	14,189	-67.7		35	8.5
125	29	15,271	-73.0		35	6.6
100	29	16,572	-74.4		02	4.5
80	27	17,884	-70.0		05	5.5
70	27	18,687	-66.5		09	7.6
60	26	19,630	-63.4		09	6.7
50	26	20,757	-61.1		10	8.5
40	26	22,153	-58.0		09	9.7
30	26	23,980	-54.8		08	13.[illegible]
25	26	25,153	-52.5		09	16.3
20	26	26,606	-49.2		09	16.9
15	25	28,506	-45.7		09	17.0
10	20	31,234	-40.0		09	17.7

BUFFALO, NY
990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	218	14.8	12.9	19	.9
1000						
950	30	566	14.4	11.7	24	3.9
900	30	1,022	12.2	9.0	26	6.1
850	30	1,500	9.9	6.6	26	8.3
800	30	2,003	7.8	1.0	27	10.1
750	30	2,534	5.7	-4.5	27	11.6
700	30	3,096	2.7	-7.7	27	12.6
650	30	3,692	-.6	-11.2	27	14.5
600	30	4,328	-3.9	-16.1	27	16.1
550	30	5,010	-7.4	-19.9	28	17.2
500	30	5,747	-11.9	-24.6	28	17.9
450	30	6,545	-17.4	-29.4	27	18.4
400	30	7,416	-23.9	-36.8	27	21.3
350	30	8,380	-31.0	-42.0	27	23.2
300	30	9,452	-39.5	-47.1	27	25.4
250	30	10,674	-48.7		27	26.6
200	30	12,116	-55.9		27	28.7
175	29	12,965	-57.7		28	27.2
150	28	13,935	-59.4		28	23.3
125	27	15,074	-60.5		28	19.9
100	25	16,467	-60.8		28	16.0
80	25	17,860	-59.4		28	10.6
70	24	18,693	-58.4		28	8.0
60	24	19,667	-56.9		29	5.1
50	22	20,828	-55.7		29	3.5
40	22	22,257	-53.6		29	2.1
30	22	24,115	-51.7		32	.3
25	22	25,301	-50.2		01	1.0
20	19	26,764	-48.3		32	1.0
15	16	28,660	-46.6		26	1.7
10	11	31,418	-41.7			

CAPE HATTERAS, NC
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m ps
SFC	30	4	22.6	20.0	33	.4
1000	30	150	23.4	19.5	29	.5
950	30	596	20.3	16.4	27	1.6
900	30	1,062	17.7	12.7	26	2.7
850	30	1,549	14.8	9.2	26	3.8
800	30	2,061	12.4	4.6	26	4.4
750	30	2,600	10.0	-1.3	26	4.9
700	30	3,171	6.9	-5.8	27	4.8
650	30	3,777	3.5	-8.4	27	5.3
600	30	4,422	-.1	-12.9	27	6.9
550	30	5,114	-4.1	-18.6	27	8.0
500	30	5,860	-8.3	-23.4	27	9.1
450	30	6,669	-13.6	-29.3	27	9.9
400	30	7,555	-19.7	-33.4	27	10.5
350	30	8,535	-26.8	-40.4	28	12.5
300	30	9,626	-35.4	-47.7	27	14.0
250	29	10,873	-45.1		28	14.7
200	29	12,327	-55.9		28	15.1
175	29	13,167	-61.0		28	14.1
150	29	14,114	-65.2		28	12.5
125	29	15,2[illegible]	-67.5		28	10.5
100	29	16,5[illegible]	-67.3		28	7.1
80	28	17,911	-64.5		30	2.4
70	28	18,732	-62.2		33	1.0
60	28	19,691	-59.6		06	1.2
50	28	20,84[illegible]	-56.6		07	2.6
40	28	22,2[illegible]	-54.4		09	3.8
30	28	24,120	-51.4		08	5.2
25	28	25,3[illegible]8	-49.9		09	6.1
20	27	26,775	-48.2		09	6.9
15	20	28,680	-45.2		10	6.6
10	8	31,393	-42.4			

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1977

* CARIBOU, ME 994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	191	7.6	5.8	30	.7
1000	8	202	4.4	1.4		
950	30	562	8.2	5.1	28	1.7
900	30	1,008	6.6	1.9	28	3.4
850	30	1,476	4.7	-.4	28	5.0
800	30	1,969	2.6	-5.5	29	5.9
750	30	2,489	.5	-8.7	28	7.1
700	30	3,040	-2.4	-12.4	28	8.5
650	30	3,626	-5.1	-15.8	28	10.7
600	30	4,251	-8.1	-19.9	28	12.1
550	30	4,922	-12.7	-24.0	28	13.7
500	30	5,644	-17.2	-28.6	28	15.9
450	30	6,427	-22.6	-35.5	28	18.6
400	30	7,282	-28.8	-41.3	27	20.5
350	30	8,229	-35.6	-46.4	27	22.1
300	29	9,269	-43.4	-49.0	27	25.7
250	29	10,477	-50.1		27	30.2
200	29	11,918	-54.9		28	32.5
175	29	12,770	-55.2		28	29.8
150	28	13,755	-55.1		28	23.7
125	28	14,920	-55.5		27	20.7
100	28	16,340	-56.1		28	16.9
80	28	17,760	-55.8		28	10.5
70	28	18,612	-55.0		27	7.8
60	28	19,599	-54.2		27	7.4
50	28	20,769	-53.9		27	4.5
40	27	22,213	-52.3		26	2.4
30	26	24,078	-50.4		24	1.2
25	25	25,276	-49.0		24	1.9
20	24	26,753	-46.9		25	2.[illegible]
15	21	28,655	-45.0		26	1.[illegible]
10						
7						

CENTREVILLE, AL 1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	140	20.2	19.5	08	.5
1000	14	158	19.9	18.2	07	1.5
950	30	582	21.4	17.1	19	2.9
900	30	1,050	18.9	15.2	21	3.6
850	30	1,540	16.3	9.8	21	3.1
800	30	2,054	13.6	6.0	21	2.4
750	30	2,595	10.5	2.1	22	1.8
700	30	3,167	7.4	-2.3	25	1.[illegible]
650	30	3,775	4.0	-6.3	27	2.2
600	30	4,421	.3	-11.1	28	2.[illegible]
550	30	5,114	-3.3	-15.9	27	3.7
500	30	5,862	-7.9	-21.2	28	4.5
450	30	6,674	-13.0	-26.7	28	5.4
400	30	7,561	-19.2	-32.0	28	[illegible].4
350	30	8,544	-26.0	-38.3	28	7.5
300	30	9,638	-34.6	-46.3	29	8.[illegible]
250	30	10,885	-44.6		29	9.7
200	30	12,342	-56.0		30	11.2
175	30	13,180	-61.6		29	12.9
150	30	14,125	-66.1		30	11.8
125	30	15,220	-69.8		30	8.4
100	30	16,548	-69.[illegible]		30	4.4
80	30	17,885	-66.5		34	1.6
70	30	18,699	-64.0		03	1.3
60	30	19,649	-61.[illegible]		07	2.1
50	30	20,790	-58.1		08	3.3
40	30	22,203	-55.[illegible]		08	4.7
30	29	24,045	-53.1		08	7.6
25	29	25,226	-50.9		08	8.5
20	27	26,689	-48.[illegible]		09	[illegible].3
15	24	28,594	-46.5		08	[illegible].1
10	20	31,302	-42.4		08	10.1
7	9	33,651	-39.8			

CHARLESTON, SC 1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	13	21.7	20.2	32	.7
1000	30	147	23.1	21.0	30	.[illegible]
950	30	596	21.7	17.8	23	1.5
900	30	1,064	18.9	14.6	23	2.3
850	30	1,553	16.0	10.0	24	2.7
800	30	2,067	13.4	6.2	25	2.[illegible]
750	30	2,609	10.7	.8	25	3.7
700	30	3,181	7.5	-3.5	26	3.3
650	30	3,788	4.2	-7.9	26	[illegible]
600	30	4,435	.7	-11.8	27	4.1
550	30	5,129	-3.2	-16.7	26	4.7
500	30	5,877	-7.6	-21.4	27	5.[illegible]
450	30	6,690	-12.7	-26.8	26	5.[illegible]
400	30	7,578	-18.8	-32.[illegible]	26	6.2
350	30	8,562	-25.9	-38.8	27	7.[illegible]
300	30	9,656	-34.7	-46.[illegible]	27	9.4
250	30	10,902	-44.9		27	10.8
200	30	12,357	-56.1		28	11.6
175	30	13,195	-61.8		28	11.[illegible]
150	30	14,138	-66.5		29	9.[illegible]
125	30	15,233	-69.2		29	6.7
100	30	16,565	-69.2		30	[illegible].7
80	30	17,910	-65.3		35	1.2
70	30	18,728	-62.6		04	1.7
60	30	19,685	-60.2		07	[illegible].5
50	30	20,830	-57.1		08	3.[illegible]
40	29	22,249	-55.1		09	[illegible]
30	29	24,099	-52.0		09	8.4
25	29	25,285	-50.3		09	8.[illegible]
20	29	26,750	-47.7		09	9.8
15	26	28,655	-45.5		08	[illegible].6
10	21	31,380	-41.6		09	10.[illegible]
7	5	33,799	-39.1			

CHATHAM, MA 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	16	15.0	13.1	05	.6
1000	30	143	15.4	12.1	01	.4
950	30	578	13.[illegible]	8.3	30	1.6
900	30	1,033	11.[illegible]	5.4	29	[illegible].9
850	30	1,510	9.6	2.3	29	5.4
800	30	2,013	8.0	-.3	28	7.8
750	30	2,543	5.7	-4.5	28	10.4
700	30	3,105	3.1	-7.3	28	12.7
650	30	3,703	.3	-11.4	28	13.7
600	30	4,341	-3.1	-16.0	28	14.2
550	30	5,025	-7.3	-19.9	27	15.[illegible]
500	30	5,761	-11.7	-25.3	27	16.7
450	30	6,561	-17.0	-29.6	27	18.2
400	30	7,434	-23.2	-36.3	27	20.3
350	30	8,400	-30.[illegible]	-43.3	27	22.[illegible]
300	30	9,475	-38.7	-49.6	27	24.0
250	30	10,702	-47.9		27	26.1
200	30	12,146	-56.[illegible]		27	28.5
175	29	12,988	-59.1		28	26.5
150	29	13,949	-61.2		27	23.[illegible]
125	29	15,080	-62.1		27	19.1
100	29	16,460	-61.[illegible]		28	14.7
80	29	17,847	-60.[illegible]		28	[illegible].0
70	29	18,682	-58.[illegible]		28	[illegible].7
60	28	19,652	-57.4		28	4.4
50	28	20,810	-55.5		27	2.8
40	28	22,237	-54.[illegible]		29	1.[illegible]
30	27	24,090	-51.8		28	1.0
25	26	25,274	-50.4		24	.[illegible]
20	25	26,739	-48.1		30	.[illegible]
15	19	28,668	-46.0		23	.5
10	12	31,378	-42.8		27	2.[illegible]
7						

* COLD BAY, AK 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	28	30	9.1	6.7	26	2.5
1000	26	150	9.4	6.5	27	3.7
950	28	561	7.5	2.8	28	5.5
900	28	1,005	5.0	.1	28	6.6
850	28	1,470	3.2	-4.0	28	7.8
800	28	1,960	1.2	-7.7	28	8.8
750	28	2,476	-1.3	-11.4	28	10.2
700	28	3,024	-3.6	-16.3	27	11.7
650	28	3,607	-6.5	-19.[illegible]	27	13.1
600	28	4,229	-10.3	-22.8	27	14.6
550	28	4,894	-13.8	-25.2	26	13.6
500	28	5,613	-18.0	-30.[illegible]	26	14.7
450	28	6,393	-23.1	-35.1	26	16.4
400	28	7,245	-29.1	-39.7	26	19.1
350	28	8,189	-36.0	-43.6	26	20.4
300	28	9,240	-43.6	-47.5	26	21.8
250	27	10,454	-50.5		26	22.6
200	27	11,893	-54.6		27	22.6
175	27	12,748	-54.7		27	18.6
150	27	13,734	-54.7		27	17.9
125	27	14,898	-55.8		26	15.1
100	27	16,317	-55.8		27	11.5
80	26	17,739	-55.6		27	7.5
70	26	18,591	-55.1		27	7.8
60	25	19,578	-55.0		28	5.7
50	25	20,744	-54.6		28	5.0
40	24	22,173	-54.2		28	4.3
30	22	24,022	-53.1		27	4.4
25	22	25,199	-52.3		28	5.0
20	21	26,647	-50.8		27	6.4
15	16	28,516	-48.5		27	6.8
10	11	31,225	-44.3			
7						

DAYTON, OH 981 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	299	16.3	14.4	23	.9
1000						
950	30	575	17.4	13.7	25	3.2
900	30	1,036	15.7	9.9	26	5.4
850	30	1,520	13.1	4.7	26	6.4
800	30	2,029	11.4	-1.0	26	7.[illegible]
750	30	2,566	8.9	-4.3	27	9.6
700	30	3,134	5.7	-6.2	27	10.7
650	30	3,737	2.1	-9.6	27	11.2
600	30	4,379	-1.8	-14.0	27	12.0
550	30	5,066	-5.9	-19.6	27	13.0
500	30	5,806	-10.5	-24.8	27	14.3
450	30	6,609	-15.7	-27.6	27	15.4
400	30	7,487	-21.9	-32.6	27	16.7
350	28	8,464	-28.7	-40.1	27	17.8
300	26	9,556	-37.1	-46.3	28	19.7
250	25	10,795	-46.7		28	22.8
200	24	12,244	-56.3		27	26.7
175	24	13,085	-59.9		28	25.3
150	23	14,045	-63.4		28	21.3
125	22	15,167	-64.3		27	16.0
100	22	16,530	-64.9		28	11.7
80	21	17,899	-63.2		29	6.3
70	21	18,726	-60.4		30	3.6
60	18	19,694	-59.0		31	1.5
50	18	20,844	-56.7		01	1.2
40	18	22,265	-54.5		05	1.2
30	17	24,124	-51.3		08	3.6
25	17	25,312	-50.1		08	3.9
20	17	26,777	-48.2		08	4.0
15	13	28,697	-45.4		09	6.3
10	7	31,451	-40.9			
7						

DEL RIO, TX 976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	314	24.1	20.0	11	3.3
1000						
950	30	551	23.8	19.4	15	6.7
900	30	1,024	22.4	16.7	17	[illegible].7
850	30	1,521	20.1	12.1	17	6.7
800	30	2,042	17.[illegible]	6.3	16	4.2
750	30	2,592	14.9	2.2	10	1.6
700	30	3,172	10.7	-.6	02	2.5
650	30	3,785	6.6	-4.5	01	2.9
600	30	4,438	[illegible].4	-10.6	36	3.2
550	30	5,135	-1.8	-16.9	34	3.3
500	30	5,887	-6.4	-22.4	32	2.8
450	30	6,703	-11.7	-26.7	31	3.[illegible]
400	30	7,595	-17.[illegible]	-32.7	31	4.9
350	29	8,583	-24.[illegible]	-39.5	30	6.6
300	29	9,681	-33.7	-46.7	31	8.[illegible]
250	29	10,934	-43.6		31	11.3
200	29	12,398	-54.7		31	12.4
175	29	13,240	-60.6		31	11.9
150	29	14,186	-66.5		31	11.4
125	29	15,275	-72.1		31	9.0
100	29	16,581	-73.7		32	4.3
80	28	17,896	-70.1		02	2.4
70	28	18,697	-66.1		07	4.0
60	28	19,641	-62.8		09	5.5
50	28	20,772	-60.0		10	6.2
40	28	22,173	-57.9		09	7.2
30	27	23,997	-54.[illegible]		08	10.7
25	26	25,168	-52.9		09	12.3
20	26	26,617	-50.2		09	13.1
15	25	28,508	-47.5		08	14.1
10	24	31,218	-42.7		08	16.[illegible]
7	10	33,628	-39.[illegible]			

DENVER, CO 838 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,611	12.6	1.5	20	2.1
1000						
950						
900						
850						
800	30	2,001	15.9	-.1	23	2.5
750	30	2,547	13.4	-3.2	25	3.0
700	30	3,124	9.4	-5.9	26	4.3
650	30	3,733	4.7	-8.1	27	6.5
600	30	4,380	-.4	-11.3	27	9.1
550	30	5,069	-5.2	-15.[illegible]	27	[illegible].1
500	30	5,811	-10.2	-21.7	26	10.3
450	30	6,615	-15.7	-28.[illegible]	26	12.[illegible]
400	30	7,492	-22.5	-34.1	26	15.4
350	30	8,460	-29.9	-41.1	26	17.7
300	30	9,537	-38.4	-47.[illegible]	26	21.0
250	30	10,765	-47.5		26	24.[illegible]
200	30	12,212	-55.3		27	28.[illegible]
175	30	13,057	-58.6		27	27.[illegible]
150	30	14,017	-62.1		27	24.8
125	30	15,140	-64.0		27	19.[illegible]
100	30	16,502	-65.2		27	10.[illegible]
80	30	17,864	-64.2		27	[illegible].1
70	30	18,685	-62.0		27	2.8
60	29	19,649	-59.8		28	1.[illegible]
50	28	20,795	-58.1		32	1.[illegible]
40	28	22,210	-55.4		03	1.[illegible]
30	27	24,052	-52.9		07	1.4
25	25	25,238	-51.5		07	1.[illegible]
20	23	26,689	-49.3		08	2.[illegible]
15	20	28,588	-46.7		06	2.6
10	17	31,298	-42.9		09	3.6
7	6	33,711	-40.5			

DODGE CITY, KS 923 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	791	17.0	12.8	18	1.3
1000						
950						
900	30	1,010	18.9	11.8	18	3.8
850	30	1,501	17.8	7.8	22	4.0
800	30	2,019	16.4	3.3	25	4.[illegible]
750	30	2,566	13.5	-.5	25	4.7
700	30	3,143	9.7	-4.9	26	4.7
650	30	3,754	5.2	-7.7	26	5.[illegible]
600	30	4,402	.4	-11.2	26	[illegible].2
550	30	5,094	-4.1	-16.9	27	7.3
500	30	5,838	-9.1	-21.4	27	9.1
450	30	6,646	-14.4	-26.0	27	10.9
400	29	7,526	-20.8	-31.4	27	12.9
350	29	8,501	-28.2	-38.4	27	14.[illegible]
300	29	9,585	-36.[illegible]	-46.6	27	17.3
250	29	10,821	-46.3		28	21.9
200	29	12,273	-55.6		28	26.0
175	29	13,116	-59.4		28	25.1
150	29	14,072	-63.4		28	21.6
125	29	15,184	-66.7		28	16.7
100	29	16,527	-67.7		28	9.9
80	29	17,875	-65.2		29	4.1
70	29	18,694	-62.1		30	1.7
60	29	19,652	-60.4		02	.2
50	29	20,793	-58.7		07	.4
40	29	22,202	-56.5		07	1.5
30	29	24,044	-52.8		08	2.7
25	29	25,225	-51.2		08	2.7
20	29	26,684	-48.[illegible]		09	[illegible].2
15	28	28,583	-46.9		07	[illegible].8
10	22	31,284	-42.9		09	3.9
7	7	33,731	-38.[illegible]			

EL PASO, TX 882 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,193	20.7	9.8	32	.7
1000						
950						
900						
850	30	1,513	22.2	6.6	28	1.0
800	30	2,036	18.8	4.8	26	2.6
750	30	2,587	14.8	3.0	25	3.5
700	30	3,166	10.2	.[illegible]	24	4.2
650	30	3,778	5.9	-3.5	25	5.1
600	30	4,429	1.5	-8.6	25	5.4
550	30	5,124	-3.1	-14.[illegible]	26	4.6
500	30	[illegible],872	-7.8	-21.[illegible]	26	5.5
450	30	6,684	-12.8	-26.[illegible]	26	8.2
400	30	7,572	-18.9	-32.[illegible]	27	8.8
350	29	8,557	-26.2	-39.7	27	10.7
300	29	9,650	-34.8	-46.6	27	12.6
250	29	10,897	-44.4		28	15.6
200	29	12,356	-55.3		28	18.4
175	29	13,198	-60.7		28	19.1
150	29	14,144	-66.2		28	17.4
125	29	15,236	-71.2		28	13.4
100	29	16,547	-72.8		28	7.1
80	29	17,[illegible]	-69.0		33	2.1
70	28	18,674	-64.9		[illegible]	3.0
60	28	19,623	-61.6		09	3.7
50	28	20,759	-59.3		10	4.1
40	28	22,164	-57.1		09	6.3
30	28	23,997	-54.0		08	8.8
25	27	25,171	-52.0		08	9.1
20	26	26,627	-49.5		09	10.1
15	25	28,526	-46.5		09	10.3
10	24	31,247	-41.6		09	12.4
7	7	33,632	-39.2			

ELY, NV 810 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,908	7.5	-1.6	20	3.7
1000						
950						
900						
850						
800	30	2,007	11.9	.3	19	3.6
750	30	2,548	11.1	-2.4	20	3.6
700	30	3,119	6.[illegible]	-5.4	23	5.2
650	30	3,724	2.7	-8.8	24	7.2
600	30	4,366	-1.8	-12.5	24	9.0
550	30	5,052	-6.7	-17.9	24	9.8
500	30	5,791	-11.2	-24.8	25	12.2
450	30	6,591	-16.8	-30.4	25	14.8
400	30	7,465	-23.2	-36.3	25	17.5
350	30	8,431	-30.5	-42.1	25	18.[illegible]
300	30	9,505	-38.8	-48.9	25	21.6
250	30	10,732	-48.0		25	26.7
200	30	12,177	-55.2		25	28.[illegible]
175	30	13,024	-57.9		26	28.6
150	30	13,989	-60.8		26	25.7
125	30	15,118	-63.1		26	20.0
100	30	16,488	-63.4		26	12.4
80	29	17,860	-62.8		26	5.8
70	29	18,685	-61.8		27	2.4
60	29	19,645	-59.4		29	1.1
50	29	20,792	-57.6		36	.[illegible]
40	29	22,205	-55.9		03	1.9
30	27	24,052	-53.3		07	3.6
25	26	25,234	-51.4		08	4.5
20	24	26,683	-49.4		08	4.7
15	21	28,588	-47.[illegible]		08	4.[illegible]
10	15	31,322	-43.2		08	6.7

EMPALME, MEXICO 1008 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	12	26.3	21.4	02	1.1
1000	30	86	28.0	21.2	03	1.0
950	30	542	27.1	17.1	03	.7
900	30	1,020	24.9	12.9	17	.4
850	30	1,519	22.[illegible]	9.8	16	1.3
800	30	2,043	18.7	7.2	15	[illegible].1
750	30	2,594	15.7	2.5	18	2.2
700	30	3,176	11.9	-.3	20	3.[illegible]
650	30	3,792	7.6	-4.2	19	4.1
600	30	4,447	3.4	-8.4	20	3.7
550	30	5,148	-.7	-13.8	21	2.9
500	30	5,902	-5.4	-21.0	23	3.3
450	30	6,722	-10.3	-26.3	24	4.[illegible]
400	30	7,619	-16.4	-31.1	24	4.[illegible]
350	30	8,612	-23.5	-38.2	25	5.4
300	30	9,717	-32.0	-44.6	26	7.[illegible]
250	30	10,979	-41.9		26	9.4
200	30	12,453	-53.3		27	11.[illegible]
175	30	13,300	-59.5		27	11.1
150	30	14,250	-66.1		26	10.1
125	30	15,338	-72.1		26	7.8
100	27	16,639	-73.9		26	1.8
80	26	17,956	-69.1		07	2.7
70	25	18,761	-65.7		08	5.2
60	25	19,707	-61.7		10	6.[illegible]
50	23	20,845	-59.3		10	6.4
40	22	22,254	-56.9		09	7.6
30	21	24,093	-54.6		08	11.8
25	21	25,265	-52.8		09	13.8
20	20	26,715	-50.2		09	15.3
15	14	28,598	-46.5		08	15.3
10						

* FAIRBANKS, AK 993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	135	6.2	3.[illegible]	31	.8
1000	6	156	7.1	4.[illegible]		
950	30	496	6.6	2.2	23	1.3
900	30	939	4.5	-.3	24	3.1
850	30	1,402	1.6	-3.4	24	4.7
800	30	1,888	-1.4	-5.4	24	5.4
750	30	2,400	-4.6	-9.[illegible]	23	4.6
700	30	2,940	-7.6	-12.6	24	4.5
650	30	3,514	-10.5	-17.[illegible]	24	5.2
600	30	4,126	-14.2	-22.5	24	[illegible].0
550	30	4,781	-18.2	-25.0	24	7.4
500	30	5,487	-22.7	-29.5	24	[illegible].1
450	30	6,251	-28.3	-35.8	23	9.2
400	30	7,085	-34.6	-41.[illegible]	23	[illegible].4
350	30	8,007	-41.6	-43.[illegible]	23	9.3
300	29	9,032	-49.4		25	10.[illegible]
250	26	10,226	-54.0		25	10.5
200	26	11,659	-52.6		26	10.3
175	25	12,526	-51.7		26	[illegible].6
150	25	13,527	-51.7		27	8.7
125	23	14,700	-51.5		27	8.5
100	22	16,150	-51.5		27	8.3
80	21	17,594	-51.8		28	7.0
70	21	18,460	-52.1		28	6.7
60	21	19,457	-52.6		28	6.7
50	21	20,633	-53.4		29	5.5
40	21	22,068	-53.7		28	5.[illegible]
30	19	23,910	-53.8		28	5.9
25	17	25,097	-52.9		28	5.[illegible]
20	15	26,549	-51.3		29	7.[illegible]
15	8	28,467	-48.1			
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FLINT, MI 987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	236	14.6	12.7	19	.8
1000						
950	30	562	14.6	10.8	24	3.1
900	30	1,018	12.5	8.8	26	5.3
850	30	1,497	10.2	5.1	27	7.0
800	30	2,000	8.3	.8	27	8.5
750	30	2,532	6.0	-2.6	27	10.7
700	30	3,095	3.3	-6.8	27	11.8
650	30	3,692	-.1	-11.1	28	13.0
600	30	4,329	-3.5	-16.1	28	14.2
550	30	5,012	-7.[illegible]	-20.3	28	15.8
500	30	5,748	-12.[illegible]	-24.7	27	17.8
450	30	6,545	-17.7	-29.6	27	19.5
400	30	7,416	-23.8	-36.7	27	22.[illegible]
350	30	8,380	-30.[illegible]	-43.6	27	24.6
300	30	9,453	-39.1	-47.6	28	28.0
250	30	10,679	-47.[illegible]		28	30.4
200	30	12,124	-55.5		28	31.3
175	30	12,971	-57.5		28	29.[illegible]
150	30	13,942	-59.1		28	25.3
125	30	15,083	-60.0		28	21.[illegible]
100	30	16,473	-60.6		28	13.[illegible]
80	30	17,866	-59.5		29	[illegible].4
70	30	18,704	-58.4		29	7.2
60	[illegible]0	19,676	-57.[illegible]		29	[illegible]
50	29	20,835	-55.6		30	2.3
40	29	22,262	-54.1		30	1.[illegible]
30	27	24,124	-51.4		32	.[illegible]
25	26	25,309	-49.6		29	.8
20	25	26,778	-48.0		30	1.[illegible]
15	21	28,692	-45.5		31	1.5
10	13	31,365	-42.1			

GLASGOW, MT 933 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	696	9.1	[illegible].3	07	1.8
1000						
950						
900	30	994	12.4	4.8	10	.8
850	30	1,472	11.0	1.3	27	1.3
800	30	1,976	7.8	-1.0	28	2.8
750	30	2,505	4.0	-2.0	28	5.1
700	30	3,062	.1	-3.5	28	7.3
650	30	3,653	-3.3	-8.[illegible]	27	9.4
600	30	4,282	-6.9	-14.9	27	12.2
550	30	4,957	-10.7	-19.[illegible]	27	13.3
500	30	5,683	-15.4	-23.[illegible]	27	15.1
450	30	6,471	-20.7	-29.[illegible]	27	16.2
400	30	7,331	-27.2	-36.1	27	17.4
350	30	8,282	-34.4	-44.0	26	19.0
300	30	9,338	-43.0	-49.2	26	21.1
250	30	10,543	-51.6		26	24.4
200	30	11,973	-56.0		27	25.8
175	30	12,823	-55.6		27	24.3
150	30	13,805	-56.2		27	22.2
125	30	14,962	-56.9		27	20.0
100	30	16,377	-56.7		27	15.3
80	30	17,792	-56.7		27	12.0
70	30	18,639	-56.3		27	9.3
60	30	19,619	-56.0		27	7.4
50	30	20,781	-55.4		28	4.9
40	28	22,213	-54.6		28	4.8
30	27	24,070	-52.5		29	3.8
25	25	25,254	-50.8		30	4.2
20	24	26,711	-49.2		30	4.1
15	23	28,616	-46.7		30	3.0
10	15	31,349	-42.7		27	4.8

RAWINSONDE DATA

Average monthly values

GRAND JUNCTION, CO
852 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,472	15.7	2.6	13	3.2
1000						
950						
900						
850	23	1,505	16.7	3.2	12	3.4
800	30	2,010	16.6	.3	18	3.7
750	30	2,556	13.2	-1.9	23	4.7
700	30	3,132	8.7	-4.5	25	5.7
650	30	3,740	3.8	-6.1	25	7.0
600	30	4,384	-1.3	-9.9	24	9.1
550	30	5,071	-6.4	-14.9	24	10.[illegible]
500	30	5,811	-10.7	-23.2	25	12.8
450	30	6,614	-15.6	-29.1	26	14.6
400	30	7,491	-22.1	-34.4	26	16.8
350	30	8,462	-29.[illegible]	-41.5	26	19.1
300	30	9,540	-38.0	-48.3	26	21.7
250	29	10,776	-46.8		26	26.3
200	29	12,228	-54.5		26	28.7
175	29	13,078	-57.6		27	27.6
150	29	14,043	-61.3		27	24.0
125	29	15,168	-63.3		26	18.1
100	27	16,535	-65.1		26	11.1
80	25	17,900	-64.0		27	5.1
70	24	18,720	-62.4		28	2.9
60	24	19,679	-59.6		31	1.5
50	24	20,824	-58.0		32	.9
40	23	22,240	-55.4		04	2.[illegible]
30	23	24,085	-53.3		07	2.[illegible]
25	22	25,260	-51.5		07	3.0
20	21	26,726	-49.3		08	3.5
15	19	28,616	-47.3		08	3.[illegible]
10	12	31,332	-42.4		09	4.2

* GREAT FALLS, MT
887 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	1,118	8.3	2.9	25	2.1
1000						
950						
900						
850	30	1,472	10.7	.5	25	4.6
800	30	1,974	7.6	-1.7	25	4.6
750	30	2,503	3.7	-3.8	25	5.0
700	30	3,060	.1	-6.0	25	6.5
650	30	3,651	-3.3	-10.3	25	9.[illegible]
600	30	4,280	-7.0	-15.1	25	11.0
550	30	4,953	-11.2	-19.5	25	11.9
500	29	5,674	-16.3	-23.9	26	13.7
450	28	6,453	-22.1	-28.9	26	15.4
400	28	7,309	-28.4	-35.9	25	16.0
350	28	8,255	-35.7	-42.4	25	16.[illegible]
300	27	9,313	-43.7		25	19.6
250	27	10,516	-51.6		25	20.8
200	27	11,950	-55.2		26	22.2
175	27	12,802	-55.6		26	22.5
150	27	13,784	-55.6		26	20.2
125	27	14,942	-57.0		26	17.7
100	26	16,357	-57.2		26	15.4
80	26	17,769	-57.0		26	12.3
70	26	18,615	-56.9		26	9.9
60	26	19,594	-56.1		27	[illegible]
50	25	20,756	-55.5		27	6.0
40	22	22,183	-54.4		27	5.4
30	20	24,030	-52.3		28	[illegible].0
25	17	25,220	-51.0		29	5.1
20	15	26,672	-48.9		30	4.0
15	13	28,570	-46.7		29	4.7
10	9	31,313	-42.0			

GREEN BAY, WI
989 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	210	12.4	11.0	32	.6
1000						
950	30	550	12.7	9.2	28	1.8
900	30	1,003	11.0	6.6	28	3.5
850	30	1,479	9.2	3.8	28	4.8
800	30	1,980	6.7	1.0	28	6.6
750	30	2,509	4.5	-3.4	28	8.5
700	30	3,069	1.9	-7.3	28	9.8
650	30	3,664	-1.0	-11.3	28	10.3
600	30	4,299	-4.4	-16.6	28	11.4
550	30	4,979	-8.3	-22.5	28	12.4
500	30	5,713	-13.0	-27.8	28	13.7
450	30	6,507	-18.3	-32.7	28	15.8
400	30	7,375	-24.9	-38.2	28	17.3
350	30	8,336	-31.9	-44.4	28	18.7
300	30	9,403	-40.3	-48.8	28	20.5
250	30	10,624	-48.8		28	23.5
200	30	12,065	-55.8		27	26.8
175	30	12,912	-57.4		27	25.1
150	30	13,884	-58.0		28	22.1
125	29	15,030	-59.2		28	17.9
100	29	16,427	-59.8		28	13.3
80	29	17,823	-59.1		28	10.1
70	28	18,664	-58.6		28	8.2
60	28	19,636	-57.5		29	5.9
50	28	20,792	-55.7		28	4.8
40	28	22,219	-54.3		29	3.2
30	27	24,075	-51.9		28	2.7
25	26	25,259	-50.6		29	3.1
20	24	26,713	-48.8		28	2.8
15	22	28,626	-45.7		28	2.[illegible]
10	16	31,332	-41.7		27	6.6

GREENSBORO, NC
98[illegible] MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	275	17.6	16.7	26	.4
1000						
950	30	594	19.4	14.8	25	1.7
900	30	1,059	17.6	12.3	25	2.8
850	30	1,546	15.0	9.[illegible]	25	3.8
800	30	2,059	12.9	3.[illegible]	26	4.2
750	30	2,599	10.2	-.5	27	4.6
700	30	3,170	6.8	-3.9	27	4.7
650	30	3,775	3.2	-7.0	27	5.5
600	30	4,420	-.5	-12.2	27	6.5
550	30	5,111	-4.3	-17.8	27	7.7
500	30	5,856	-8.4	-23.9	27	8.4
450	30	6,665	-13.8	-27.5	28	9.9
400	30	7,550	-20.2	-32.9	28	12.[illegible]
350	30	8,528	-27.3	-39.1	27	13.6
300	30	9,616	-35.8	-45.7	28	14.9
250	29	10,860	-45.7		28	15.7
200	29	12,311	-56.2		28	16.3
175	29	13,151	-61.0		28	16.6
150	29	14,098	-65.1		28	14.6
125	28	15,208	-67.3		29	10.9
100	28	16,551	-66.9		29	7.0
80	27	17,909	-64.2		31	2.2
70	26	18,728	-62.4		36	.7
60	26	19,687	-59.5		04	1.4
50	25	20,837	-56.9		08	1.3
40	24	22,255	-55.1		08	2.7
30	24	24,105	-51.9		08	5.[illegible]
25	22	25,298	-50.1		09	5.6
20	20	26,761	-47.7		09	6.0
15	18	28,675	-45.3		09	5.5
10	7	31,458	-41.1			

[illegible]PE IS., MEXICO
1011 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	27	[illegible]	19.2	16.5	34	[illegible]
1000	27	11[illegible]	18.3	15.5	33	[illegible]
950	27	556	18.3	9.6	32	3.6
900	27	1,0[illegible]	19.9	3.4	3[illegible]	1.8
850	27	1,5[illegible]	19.8	1.2	25	[illegible]
800	27	2,0[illegible]	17.4	.1	2[illegible]	[illegible]
750	27	2,58[illegible]	14.3	-3.2	[illegible]	[illegible]
700	27	3,159	10.7	-5.3	2[illegible]	4.6
650	27	3,773	6.8	-8.3	2[illegible]	4.[illegible]
600	27	4,425	2.0	-13.[illegible]	[illegible]	[illegible]
550	27	5,124	-1.4	-19.2	23	[illegible].7
500	27	5,876	-6.[illegible]	-23.[illegible]	23	[illegible].3
450	27	6,693	-11.2	-27.6	23	[illegible].9
400	27	7,585	-17.7	-33.3	23	[illegible]
350	27	8,574	-24.8	-39.8	23	9.4
300	27	9,674	-33.4	-46.8	23	11.8
250	27	10,930	-42.5		24	15.7
200	27	12,40[illegible]	-53.5		24	17.5
175	27	13,248	-59.8		24	18.6
150	27	14,196	-66.4		24	15.5
125	27	15,287	-71.4		23	[illegible]
100	25	16,596	-72.2		23	3.8
80	23	17,9[illegible]	-69.7		[illegible]	1.9
70	22	18,720	-66.3		07	2.8
60	21	19,663	-63.3		08	6.0
50	21	20,794	-59.9		10	5.4
40	21	22,[illegible]95	-57.5		08	5.8
30	21	[illegible]4,025	-54.7		08	9.0
25	20	25,192	-52.8		08	11.8
20	18	26,639	-50.8		08	12.0
15	12	28,535	-47.1		08	[illegible]
10	5	31,220	-44.5			

* GUAM, MARIANA IS.
997 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	111	25.1	23.7	15	.8
1000						
950	30	538	23.7	22.0	15	1.7
900	30	1,011	21.3	18.3	18	1.5
850	30	1,505	18.4	15.0	20	[illegible].7
800	30	2,025	15.[illegible]	12.2	18	2.0
750	30	2,572	13.2	9.0	16	2.[illegible]
700	30	3,150	10.2	5.2	16	2.3
650	30	3,764	6.6	1.8	16	2.[illegible]
600	30	4,418	2.7	-1.9	16	2.6
550	30	5,118	-1.1	-7.2	15	3.0
500	30	5,874	-5.2	-11.7	13	3.8
450	30	6,695	-9.[illegible]	-18.0	12	3.6
400	30	7,594	-15.7	-23.8	11	3.6
350	30	8,592	-22.[illegible]	-30.2	10	3.0
300	30	9,704	-30.5	-39.3	08	2.7
250	30	10,972	-40.9	-45.6	05	3.5
200	30	12,449	-53.5		03	4.0
175	30	13,294	-60.7		02	5.2
150	30	14,235	-68.6		03	7.0
125	30	15,306	-76.6		05	9.5
100	20	16,581	-79.2		08	12.1
80	15	17,863	-74.7		09	13.3
70	14	18,646	-69.9		09	14.9
60	14	19,570	-67.0		09	17.5
50	13	20,685	-63.3		09	19.9
40	13	22,067	-60.5		09	21.3
30	12	23,877	-57.1		09	19.7
25	11	25,047	-52.8		09	15.0
20	10	26,494	-50.6		08	10.8
15	9	28,372	-46.1			
10	6	31,123	-40.1			
7						
5						
4						

HILO, HI
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	10	22.1	19.9	25	1.8
1000	30	136	23.1	20.1	25	.7
950	30	583	19.[illegible]	18.0	08	1.9
900	30	1,048	16.7	15.3	08	2.9
850	30	1,534	13.8	11.6	08	2.[illegible]
800	30	2,044	11.9	4.5	08	2.1
750	30	2,584	11.2	-5.[illegible]	10	1.2
700	30	3,158	[illegible].1	-7.8	16	.2
650	30	3,769	5.[illegible]	-10.6	23	.[illegible]
600	30	4,419	2.5	-14.7	22	.[illegible]
550	30	5,117	-2.0	-16.9	24	.3
500	30	5,868	-6.7	-22.5	26	1.[illegible]
450	30	6,683	-11.8	-27.7	26	3.4
400	30	7,575	-17.7	-32.0	26	[illegible].2
350	30	8,564	-24.6	-38.1	26	9.2
300	30	9,664	-33.3	-46.0	26	11.7
250	30	10,917	-43.5		27	15.2
200	30	12,380	-55.3		27	18.8
175	30	13,219	-61.8		27	19.3
150	30	14,158	-68.[illegible]		27	17.7
125	30	15,237	-73.2		27	11.9
100	29	16,540	-73.9		25	2.8
80	27	17,855	-69.9		10	6.0
70	27	18,655	-67.5		09	9.3
60	27	19,591	-64.[illegible]		09	12.3
50	27	20,714	-61.5		09	14.3
40	27	22,103	-59.[illegible]		09	15.6
30	27	23,915	-56.4		09	18.[illegible]
25	26	25,078	-53.8		09	19.7
20	24	26,524	-50.[illegible]		09	18.3
15	22	28,409	-47.4		09	19.3
10	16	31,126	-41.9		09	15.5

HUNTINGTON, WV
988 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	29	246	16.4	15.1	20	.7
1000						
950	29	579	18.1	14.8	24	3.3
900	29	1,042	16.1	11.9	26	5.7
850	29	1,527	13.7	7.0	26	6.8
800	29	2,037	11.3	1.[illegible]	26	7.1
750	29	2,574	8.7	-1.8	27	7.3
700	29	3,142	5.6	-5.9	27	8.0
650	29	3,745	2.2	-10.2	27	[illegible]
600	29	4,387	-1.7	-12.7	28	9.7
550	29	5,074	-5.9	-18.6	28	10.6
500	29	5,815	-10.1	-23.6	27	11.5
450	29	6,620	-15.3	-27.4	28	13.5
400	29	7,499	-21.3	-33.9	27	13.9
350	29	8,473	-28.5	-40.0	27	15.3
300	29	9,556	-37.0	-47.[illegible]	27	17.5
250	29	10,792	-46.5		28	19.5
200	29	12,241	-56.2		28	22.3
175	29	13,081	-60.1		28	22.1
150	29	14,036	-63.0		28	18.6
125	29	15,152	-65.1		28	14.5
100	29	16,511	-65.0		28	8.6
80	29	17,878	-63.0		29	4.4
70	29	18,704	-60.9		31	2.3
60	29	19,667	-59.2		31	1.6
50	29	20,817	-56.6		35	.[illegible]
40	29	22,238	-54.9		06	1.0
30	29	24,091	-51.5		08	1.[illegible]
25	29	25,279	-49.7		07	2.[illegible]
20	28	26,744	-47.7		07	2.5
15	25	28,652	-45.4		10	2.7
10	20	31,377	-42.1		10	1.9

* INTERNATIONAL FALLS, MN
971 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	359	8.1	7.2	13	.9
1000						
950	29	547	10.1	7.4	14	.9
900	30	989	8.5	4.8	23	1.9
850	30	1,460	6.1	2.1	26	2.5
800	30	1,956	4.3	-2.8	27	3.7
750	30	2,479	2.2	-7.3	28	5.0
700	30	3,033	-.9	-10.2	28	6.4
650	30	3,622	-4.[illegible]	-14.2	28	8.1
600	30	4,250	-7.6	-18.1	28	10.0
550	30	4,922	-11.7	-22.[illegible]	28	11.8
500	30	5,645	-16.4	-26.8	28	14.2
450	30	6,430	-21.6	-32.1	28	17.3
400	30	7,287	-28.0	-38.1	28	19.1
350	30	8,234	-35.5	-45.2	28	21.2
300	30	9,286	-43.3		28	23.[illegible]
250	30	10,493	-51.1		27	27.2
200	30	11,927	-55.7		27	26.6
175	30	12,778	-55.6		27	26.9
150	30	13,761	-55.4		28	22.8
125	30	14,922	-56.4		28	19.9
100	30	16,337	-56.8		28	15.5
80	30	17,752	-56.5		28	10.8
70	30	18,600	-56.0		28	9.2
60	30	19,582	-55.8		28	[illegible].5
50	29	20,748	-55.0		29	5.6
40	29	22,178	-53.9		30	4.9
30	28	24,030	-51.8		29	3.6
25	28	25,217	-50.4		29	4.0
20	28	26,681	-48.5		28	4.0
15	23	28,575	-46.1		29	3.8
10	20	31,308	-40.3		29	2.8
7	17	33,742	-37.6		29	2.0
5	12	36,041	-35.2			
4	7	37,610	-34.4			

* ISLE DEL CISNE
1011 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	10	27.0	23.9	10	3.6
1000	30	107	26.8	24.2	10	4.7
950	30	560	23.5	21.4	10	6.7
900	30	1,032	20.7	16.9	11	7.1
850	30	1,526	17.9	12.4	11	7.4
800	30	2,043	15.1	9.2	11	7.3
750	30	2,586	12.3	4.5	11	7.2
700	30	3,164	9.2	.1	11	7.0
650	30	3,775	5.9	-4.4	11	6.5
600	30	4,426	2.1	-8.7	12	5.7
550	30	5,124	-2.1	-13.3	12	4.9
500	30	5,875	-6.6	-17.4	12	4.2
450	30	6,691	-11.7	-21.2	12	3.4
400	30	7,584	-17.4	-27.7	11	2.9
350	30	8,574	-24.2	-34.7	09	2.3
300	30	9,677	-32.6	-43.8	06	1.1
250	30	10,935	-42.9		32	1.5
200	30	12,400	-55.1		30	1.9
175	28	13,242	-61.8		31	2.9
150	28	14,180	-68.9		33	3.2
125	28	15,256	-74.2		01	2.8
100	28	16,555	-73.5		06	5.2
80	26	17,871	-71.1		09	9.3
70	26	18,668	-67.9		09	11.5
60	24	19,604	-64.3		09	13.4
50	24	20,728	-61.3		09	16.4
40	24	22,119	-59.4		09	19.0
30	22	23,928	-55.7		09	20.0
25	21	25,100	-52.2		09	18.2
20	20	26,552	-48.3		09	15.3
15	16	28,460	-44.5		09	17.2
10	15	31,211	-39.0		09	18.0

JACKSON, MS
1003 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	100	21.4	20.3	14	1.5
1000	26	130	21.7	20.5	16	1.5
950	30	572	22.2	18.7	20	4.4
900	30	1,042	19.6	15.3	19	4.6
850	30	1,533	16.9	10.5	20	3.8
800	30	2,049	14.4	6.5	20	2.8
750	30	2,592	11.4	1.3	20	2.4
700	30	3,166	8.2	-2.4	21	1.3
650	30	3,774	4.7	-6.6	23	.7
600	30	4,422	.8	-11.1	27	1.8
550	30	5,116	-3.1	-16.3	28	[illegible].4
500	30	5,865	-7.4	-21.9	28	3.0
450	30	6,677	-12.8	-27.2	29	4.[illegible]
400	30	7,566	-18.5	-32.1	29	5.8
350	30	8,551	-25.5	-38.5	29	7.1
300	30	9,648	-33.9	-46.9	30	[illegible].8
250	30	10,898	-44.2		31	9.6
200	30	12,357	-55.3		30	10.4
175	30	13,198	-61.0		30	10.6
150	30	14,144	-66.1		30	11.4
125	30	15,239	-69.[illegible]		31	9.1
100	29	16,564	-70.3		31	4.5
[illegible]	29	17,899	-66.7		34	1.5
70	28	18,715	-63.7		05	1.7
60	28	19,666	-61.4		08	2.9
50	27	20,806	-58.8		09	4.5
40	25	22,216	-55.[illegible]		08	4.5
30	24	24,057	-52.8		08	8.3
25	24	25,239	-51.0		09	9.7
20	23	26,696	-49.2		09	10.4
15	23	28,594	-46.4		09	10.1
10	21	31,315	-42.2		08	11.5
7	10	33,704	-39.1			

JOHN F. KENNEDY INT. AP NY
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	5	17.6	14.2	34	.4
1000	30	144	17.2	13.6	30	.4
950	30	581	15.2	11.5	28	1.7
900	30	1,039	13.4	9.0	28	4.2
850	30	1,519	11.2	6.2	28	6.9
800	30	2,024	9.1	2.4	27	9.0
750	30	2,557	[illegible]	-1.0	27	11.7
700	30	3,121	3.7	-5.2	27	13.[illegible]
650	30	3,720	.7	-9.5	27	15.7
600	30	4,359	-3.1	-14.9	27	17.4
550	30	5,044	-6.7	-18.[illegible]	27	18.7
500	30	5,782	-11.1	-25.3	27	19.2
450	30	6,583	-16.2	-30.3	27	21.2
400	30	7,459	-22.6	-35.9	27	22.[illegible]
350	30	8,428	-29.8	-41.1	27	25.2
300	30	9,505	-38.4	-47.1	27	27.9
250	30	10,735	-47.1		27	30.4
200	30	12,182	-55.9		27	33.4
175	29	13,022	-59.1		28	31.4
150	28	13,988	-61.4		27	26.[illegible]
125	28	15,115	-62.2		27	20.9
100	28	16,491	-62.6		28	16.8
80	27	17,875	-60.6		29	8.3
70	27	18,710	-59.1		29	5.1
60	26	19,681	-57.5		31	1.6
50	26	20,838	-55.7		33	.6
40	26	22,266	-53.7		04	1.[illegible]
30	26	24,127	-51.3		08	2.9
25	25	25,313	-49.7		09	2.5
20	24	26,783	-47.3		09	1.6
15	18	28,679	-45.0		11	1.7
10	10	31,391	-41.7			

JOHNSTON IS., PACIFIC AREA
1012 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	3	26.9	23.8	09	5.7
1000	30	111	25.6	23.1	09	5.9
950	30	561	22.1	20.9	10	6.6
900	30	1,031	19.5	17.0	09	6.[illegible]
850	30	1,522	17.0	13.6	09	5.7
800	30	2,039	14.5	9.[illegible]	09	5.1
750	30	2,583	12.2	4.[illegible]	10	4.5
700	30	3,159	9.2	-.5	10	3.5
650	30	3,770	5.8	-5.2	10	3.0
600	30	4,421	1.9	-8.9	11	1.[illegible]
550	30	5,118	-1.8	-15.9	11	1.5
500	30	5,871	-6.0	-20.3	16	.5
450	30	6,689	-10.9	-23.8	24	.7
400	30	7,584	-16.7	-30.0	25	2.6
350	30	8,577	-23.7	-36.6	25	4.6
300	30	9,682	-32.1	-44.8	25	6.7
250	30	10,942	-42.5		24	8.7
200	30	12,410	-54.7		24	11.1
175	30	13,252	-61.1		24	11.8
150	30	14,193	-68.1		26	11.6
125	30	15,271	-74.1		26	8.8
100	30	16,561	-76.1		23	1.7
80	27	17,864	-71.4		09	6.7
70	26	18,661	-68.6		09	11.5
60	25	19,594	-65.4		10	14.3
50	25	20,713	-61.9		09	16.7
40	25	22,102	-59.7		09	18.1
30	25	23,910	-57.3		09	19.9
25	25	25,069	-54.6		09	19.8
20	25	26,510	-51.2		09	18.3
15	22	28,402	-46.8		09	15.7
10	18	31,118	-43.0		09	18.0
7	7	33,550	-41.4			

KEY WEST, FL
1015 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	3	27.0	23.9	13	2.0
1000	30	135	26.8	23.4	13	2.8
950	30	587	23.2	20.5	14	3.9
900	30	1,058	20.5	16.4	14	4.2
850	30	1,551	17.6	12.2	14	3.2
800	30	2,068	15.0	7.8	14	3.2
750	30	2,613	12.2	3.6	13	3.3
700	30	3,188	8.9	-.3	12	2.5
650	30	3,799	5.5	-3.8	11	2.2
600	30	4,449	[illegible].6	-7.5	10	1.7
550	30	5,145	-2.4	-11.2	08	1.1
500	30	5,896	-6.8	-17.9	08	.6
450	30	6,711	-11.8	-22.7	04	.2
400	30	7,604	-17.7	-29.9	33	.6
350	30	8,593	-24.7	-36.0	32	.8
300	30	9,692	-33.2	-43.7	31	1.4
250	29	10,947	-43.4		30	2.3
200	29	12,408	-55.6		30	4.4
175	29	13,247	-61.9		31	6.0
150	29	14,187	-67.8		31	6.2
125	29	15,273	-71.5		35	4.6
100	28	16,591	-70.7		03	3.6
80	28	17,923	-67.5		08	4.4
70	28	18,733	-65.2		09	5.[illegible]
60	28	19,678	-62.7		08	8.6
50	28	20,808	-60.1		09	10.7
40	28	22,210	-57.2		09	12.5
30	27	24,048	-53.8		09	15.1
25	26	25,226	-52.1		09	16.9
20	25	26,682	-48.5		09	17.5
15	21	28,591	-45.2		08	18.3
10	15	31,334	-39.8		09	21.6
7	6	33,736	-39.5			

KING SALMON, AK
1010 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	15	7.0	4.7	23	1.7
1000	25	116	8.1	5.8	25	2.4
950	30	518	6.3	3.4	26	4.6
900	30	960	3.8	.6	27	5.2
850	30	1,423	1.9	-4.5	27	5.7
800	30	1,911	.1	-8.6	27	6.6
750	30	2,426	-2.8	-11.3	27	7.4
700	30	2,970	-5.7	-15.6	27	8.7
650	30	3,548	-8.4	-20.0	27	9.0
600	30	4,166	-11.6	-23.4	27	10.5
550	30	4,827	-15.6	-26.9	27	12.2
500	30	5,541	-20.0	-30.0	27	14.8
450	30	6,315	-25.0	-35.4	27	16.9
400	30	7,160	-31.2	-41.5	27	18.1
350	30	8,097	-37.6	-43.8	28	21.7
300	30	9,142	-44.4	-43.7	27	25.4
250	30	10,346	-50.5		27	27.5
200	28	11,796	-53.0		27	22.7
175	28	12,658	-52.4		28	17.8
150	28	13,656	-52.4		27	15.9
125	27	14,837	-53.0		28	12.5
100	27	16,273	-54.2		28	8.9
80	27	17,705	-54.2		27	8.0
70	27	18,562	-54.3		28	7.0
60	27	19,551	-53.8		28	5.9
50	25	20,722	-54.5		28	4.6
40	22	22,150	-54.4		28	4.1
30	21	23,998	-53.7		29	4.4
25	20	25,169	-52.7		28	3.8
20	17	26,619	-50.7		28	5.6
15	11	28,477	-49.6			

RAWINSONDE DATA

Average monthly values

+ KOROR, CAROLINE IS.
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	30	27.8	24.5	21	1.7
1000	30	86	27.1	24.1	22	2.0
950	30	539	23.5	21.7	23	5.2
900	30	1,011	20.7	17.3	24	8.0
850	30	1,504	17.9	13.3	26	8.6
800	30	2,023	15.7	10.3	26	8.1
750	30	2,569	13.0	6.8	26	7.2
700	30	3,147	9.7	3.0	26	5.7
650	30	3,760	6.7	-1.1	26	4.4
600	30	4,413	2.8	-4.6	26	3.9
550	30	5,113	-1.2	-9.5	22	2.3
500	30	5,868	-5.2	-13.8	16	3.6
450	30	6,688	-10.1	-19.1	14	3.3
400	30	7,587	-15.7	-25.0	10	3.8
350	30	8,584	-22.4	-30.7	08	5.6
300	30	9,695	-30.6	-38.8	07	7.6
250	30	10,964	-40.8	-47.1	06	10.0
200	30	12,441	-53.4		04	12.9
175	29	13,288	-60.5		05	14.6
150	29	14,230	-68.2		05	16.7
125	29	15,306	-75.0		07	13.9
100	29	16,585	-78.3		07	10.3
80	29	17,868	-74.0		09	12.1
70	29	18,655	-70.2		09	13.2
60	28	19,576	-66.9		09	18.7
50	26	20,685	-62.9		09	24.5
40	25	22,075	-58.3		09	25.7
30	25	23,906	-53.5		09	[illegible].2
25	24	25,084	-50.9		10	2.2
20	23	26,541	-49.0		26	1.6
15	21	28,454	-45.5		24	3.6
10	17	31,182	-40.6		18	1.1
7	5	33,600	-36.5			

KOTZEBUE, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	5	5.9	2.7	03	.9
1000	20	80	5.3	1.7	09	.1
950	28	469	3.4	.7	16	1.7
900	28	906	.9	-2.4	21	2.3
850	28	1,363	-1.5	-5.1	21	3.0
800	28	1,844	-4.0	-8.4	21	3.2
750	28	2,351	-6.6	-12.3	19	3.5
700	28	2,887	-9.8	-15.7	20	3.3
650	28	3,456	-13.0	-19.9	20	3.7
600	28	4,062	-17.1	-24.5	21	4.0
550	28	4,709	-21.5	-30.0	22	4.4
500	28	5,404	-26.3	-35.2	22	[illegible].0
450	28	6,158	-31.6	-41.2	24	5.0
400	28	6,981	-37.7	-46.5	23	6.0
350	28	7,892	-44.3		23	7.6
300	28	8,908	-50.0		24	9.2
250	28	10,092	-51.9		25	12.3
200	28	11,549	-48.8		25	12.2
175	28	12,427	-48.5		25	12.1
150	28	13,441	-48.[illegible]		25	11.5
125	28	14,636	-49.3		26	11.1
100	28	16,098	-50.0		26	10.0
80	27	17,550	-50.9		27	[illegible].4
70	27	18,419	-51.6		27	8.0
60	27	19,418	-52.4		27	[illegible].0
50	26	20,597	-53.4		27	7.5
40	24	22,031	-54.0		27	6.7
30	23	23,873	-54.6		28	5.2
25	21	25,040	-54.2		28	6.6
20	18	26,487	-53.1		29	[illegible].4
15	16	28,354	-51.1		28	6.2
10	8	31,090	-45.5			

LAKE CHARLES, LA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	5	22.8	22.2	10	.7
1000	30	122	24.7	23.1	15	1.2
950	30	572	22.7	19.2	18	3.4
900	30	1,042	19.9	15.4	18	3.6
850	30	1,534	17.3	10.1	20	3.0
800	30	2,050	15.0	4.4	22	1.7
750	30	2,594	12.2	.9	25	.8
700	30	3,169	9.0	-2.2	31	.5
650	30	3,780	5.2	-6.9	02	.4
600	30	4,429	1.4	-10.5	35	1.4
550	30	5,124	-2.6	-15.8	33	1.9
500	30	5,874	-7.1	-21.5	32	2.[illegible]
450	30	6,689	-12.0	-26.9	32	[illegible]
400	30	7,580	-17.9	-32.8	33	5.6
350	30	8,567	-25.1	-38.8	33	6.0
300	30	9,665	-33.8	-46.8	33	[illegible].9
250	30	10,916	-43.9		32	6.2
200	30	12,378	-54.9		32	7.[illegible]
175	30	13,221	-60.4		31	7.5
150	29	14,168	-65.8		32	[illegible].2
125	29	15,262	-70.9		32	7.0
100	29	16,579	-71.6		33	4.[illegible]
80	28	17,911	-67.7		03	2.[illegible]
70	28	18,720	-64.9		06	[illegible]
60	28	19,668	-61.5		09	4.3
50	28	20,807	-58.9		09	[illegible].6
40	28	22,216	-56.3		09	6.[illegible]
30	27	24,052	-53.7		08	9.7
25	24	25,224	-51.8		09	11.3
20	23	26,679	-49.3		09	12.7
15	22	28,577	-46.4		08	12.[illegible]
10	16	31,292	-41.3		08	13.[illegible]

LANDER, WY
829 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,697	9.9	-1.0	24	1.6
1000						
950						
900						
850						
800	30	1,992	12.6	-1.4	28	1.5
750	30	2,532	10.5	-4.2	28	2.0
700	30	3,102	6.3	-6.7	27	4.7
650	30	3,705	1.6	-9.8	27	7.9
600	30	4,344	-3.2	-13.9	27	12.0
550	30	5,027	-7.6	-18.7	26	14.4
500	30	5,762	-12.[illegible]	-24.9	25	15.1
450	30	6,558	-18.0	-30.1	25	16.6
400	30	7,427	-24.7	-36.4	25	18.7
350	30	8,387	-32.3	-42.2	26	21.0
300	30	9,453	-40.7	-48.2	26	24.1
250	30	10,671	-49.2		26	28.[illegible]
200	30	12,112	-55.3		26	32.0
175	30	12,961	-56.9		26	30.1
150	30	13,933	-58.9		26	26.4
125	29	15,073	-60.5		26	20.6
100	29	16,461	-61.1		26	15.[illegible]
80	29	17,847	-60.6		27	6.4
70	29	18,680	-60.2		27	4.[illegible]
60	29	19,645	-58.9		27	3.[illegible]
50	29	20,795	-56.9		31	1.8
40	29	22,213	-55.6		34	1.3
30	28	24,063	-53.2		36	2.0
25	27	25,250	-51.1		01	2.3
20	25	26,711	-49.2		04	2.[illegible]
15	24	28,613	-46.9		07	3.1
10	15	31,332	-43.6		08	3.2

* LIHUE KAUAI, HI
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	36	24.9	21.3	06	4.5
1000	30	144	24.0	19.9	06	5.3
950	30	591	20.2	18.2	07	6.6
900	30	1,056	16.8	14.2	08	6.8
850	30	1,542	13.8	10.5	08	6.0
800	30	2,052	11.7	4.3	08	5.7
750	30	2,593	11.5	-6.7	08	4.6
700	30	3,167	9.4	-9.7	08	2.8
650	30	3,777	6.0	-12.1	08	1.6
600	30	4,428	2.2	-15.4	04	.8
550	30	5,125	-2.1	-17.9	34	.7
500	30	5,875	-6.9	-22.9	31	1.1
450	30	[illegible],689	-12.2	-26.9	28	3.0
400	30	7,579	-18.6	-32.9	28	4.1
350	30	8,563	-26.0	-38.9	27	5.4
300	30	9,658	-34.1	-46.6	27	[illegible].2
250	30	10,909	-43.8		27	13.8
200	30	12,370	-55.3		26	17.3
175	29	13,210	-61.2		27	18.4
150	28	14,158	-67.2		27	15.5
125	28	15,246	-71.4		27	11.2
100	28	16,558	-72.0		25	4.2
80	26	17,887	-68.8		09	3.5
70	26	18,691	-66.7		09	6.8
60	26	19,629	-64.0		09	9.6
50	25	20,755	-61.3		09	11.9
40	25	22,147	-59.3		09	13.6
30	25	23,963	-56.1		09	15.8
25	23	25,129	-54.3		09	18.4
20	22	26,574	-51.4		09	20.9
15	20	28,465	-47.4		09	21.1
10	16	31,167	-43.0		09	19.3

LITTLE ROCK, AR
995 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	79	21.1	19.5	16	.8
1000						
950	30	578	21.9	16.[illegible]	21	4.0
900	30	1,047	19.6	14.9	22	[illegible].2
850	30	1,539	17.1	10.0	23	4.7
800	30	2,054	14.5	4.9	23	3.8
750	30	2,598	11.7	-.1	24	3.4
700	30	3,171	8.2	-4.1	25	3.0
650	30	3,779	4.1	-6.3	26	3.5
600	30	4,426	.2	-11.5	27	4.2
550	30	5,118	-4.0	-17.0	27	6.2
500	30	5,864	-8.6	-22.4	27	7.4
450	29	6,672	-13.7	-26.8	27	9.1
400	29	7,557	-19.5	-31.7	27	9.7
350	29	8,539	-26.4	-37.0	28	10.9
300	29	9,632	-34.8	-45.6	29	12.9
250	29	10,878	-44.9		29	15.3
200	29	12,333	-56.0		29	17.8
175	29	13,172	-61.0		29	16.2
150	29	14,120	-65.4		29	16.0
125	28	15,219	-69.0		30	12.2
100	28	16,553	-69.1		30	5.7
80	27	17,893	-66.2		30	1.3
70	27	18,710	-62.9		33	[illegible].2
60	26	19,664	-60.4		06	1.6
50	26	20,806	-57.9		08	2.5
40	26	22,221	-55.8		09	3.3
30	26	24,065	-53.0		08	5.7
25	25	25,246	-51.1		09	6.4
20	24	26,704	-48.[illegible]		09	6.4
15	22	28,606	-45.9		08	7.0
10	21	31,319	-43.2		09	[illegible].3
7	9	33,712	-39.9			

LONGVIEW, TX
1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	124	21.[illegible]	20.6	18	1.4
1000	17	139	21.2	19.7	16	1.5
950	29	567	21.9	17.7	19	6.5
900	29	1,036	20.0	13.7	20	6.0
850	29	1,528	17.8	8.4	21	3.3
800	29	2,045	15.2	3.3	22	2.0
750	29	2,589	12.3	-.3	24	2.1
700	29	3,164	8.[illegible]	-4.7	26	1.5
650	29	3,774	4.9	-8.3	29	1.2
600	29	4,422	1.0	-12.0	29	1.6
550	29	5,116	-3.1	-17.7	30	2.1
500	29	5,864	-7.7	-24.0	28	3.5
450	29	6,676	-12.7	-28.3	28	[illegible]
400	29	7,564	-19.1	-33.3	29	7.5
350	29	8,547	-26.1	-39.3	28	9.2
300	29	9,641	-34.7	-46.5	29	10.3
250	29	10,889	-44.4		29	11.4
200	29	12,348	-55.2		30	13.6
175	29	13,190	-60.2		30	12.5
150	28	14,142	-65.9		30	12.5
125	28	15,235	-70.6		31	10.7
100	28	16,555	-71.3		31	5.4
80	28	17,885	-67.3		36	2.2
70	28	18,696	-64.4		06	2.2
60	27	19,646	-61.3		09	3.1
50	27	20,785	-58.6		09	3.8
40	27	22,196	-56.3		09	4.7
30	27	24,035	-53.4		08	[illegible].4
25	27	25,213	-51.5		09	9.9
20	25	26,673	-48.6		09	10.3
15	25	28,577	-46.0		09	9.[illegible]
10	21	31,298	-41.6		09	12.0

MCGRATH, AK
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	103	6.1	4.3	22	1.4
1000	15	135	7.1	3.5	22	1.3
950	30	498	6.0	2.5	22	3.6
900	30	939	3.2	.3	23	4.[illegible]
850	30	1,400	.4	-1.6	23	5.2
800	30	1,885	-2.1	-5.[illegible]	23	5.4
750	30	2,396	-4.6	-9.9	23	[illegible].7
700	30	2,936	-7.6	-14.1	23	5.[illegible]
650	30	3,510	-10.8	-19.6	23	6.6
600	30	4,121	-14.5	-23.7	23	7.2
550	30	4,775	-18.7	-27.7	23	8.5
500	30	5,479	-23.2	-31.5	24	10.0
450	30	6,243	-28.4	-35.9	24	11.0
400	30	7,076	-34.6	-41.7	24	12.[illegible]
350	30	7,999	-41.2	-44.3	25	14.[illegible]
300	30	9,029	-47.9		26	17.1
250	30	10,218	-51.5		26	17.[illegible]
200	30	11,666	-51.2		26	16.[illegible]
175	30	12,537	-50.4		27	14.7
150	30	13,543	-50.3		27	12.6
125	30	14,730	-51.3		27	12.1
100	30	16,179	-51.8		27	[illegible]
80	30	17,624	-52.3		27	[illegible].1
70	30	18,487	-52.6		27	7.[illegible]
60	30	19,482	-53.1		28	[illegible]
50	30	20,655	-54.0		28	[illegible].4
40	30	22,085	-54.6		28	5.4
30	27	23,935	-54.1		28	5.7
25	27	25,106	-53.7		28	5.[illegible]
20	25	26,538	-52.8		28	6.[illegible]
15	20	28,407	-50.6		28	[illegible].7
10	8	31,035	-48.1			

+ MAJURO, MARSHALL IS.
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	3	29.5	24.4	13	.6
1000	30	100	27.4	22.7	14	.[illegible]
950	30	553	23.8	21.3	14	1.2
900	30	1,026	21.1	17.3	13	1.6
850	30	1,520	18.1	14.0	13	[illegible]
800	30	2,038	15.7	10.8	11	2.3
750	30	2,585	13.0	6.6	10	3.4
700	30	3,163	10.1	2.1	09	3.9
650	30	3,776	6.7	-2.0	09	4.7
600	30	4,429	2.9	-6.9	09	6.2
550	30	5,130	-.9	-12.1	09	7.6
500	30	5,885	-5.2	-15.5	09	7.5
450	30	6,706	-9.6	-21.6	09	7.5
400	30	7,607	-15.0	-27.5	10	[illegible].5
350	30	8,606	-21.9	-34.2	10	5.[illegible]
300	30	9,720	-30.2	-41.9	10	5.9
250	30	10,989	-40.[illegible]	-50.1	10	[illegible].3
200	30	12,469	-53.0		09	4.7
175	30	13,317	-59.[illegible]		09	4.0
150	30	14,263	-67.6		09	3.3
125	30	15,343	-74.3		11	3.[illegible]
100	30	16,626	-77.8		09	6.2
80	30	17,919	-72.4		10	[illegible].4
70	30	18,710	-69.8		09	10.[illegible]
60	30	19,636	-66.4		09	16.2
50	30	20,750	-62.6		09	22.3
40	30	22,141	-57.9		09	24.6
30	28	23,981	-51.9		10	[illegible].1
25	27	25,169	-49.3		22	1.0
20	27	26,636	-47.8		26	2.4
15	25	28,552	-43.9		25	3.3
10	15	31,306	-40.6			

* MEDFORD, OR
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	401	12.0	7.8	31	.7
1000						
950	30	556	13.4	7.1	30	1.1
900	30	1,011	12.1	5.5	29	.8
850	30	1,489	10.1	[illegible]	22	1.2
800	30	1,991	7.9	-1.[illegible]	22	3.4
750	30	2,521	5.5	-6.0	24	[illegible]
700	30	3,082	2.4	-10.6	24	7.3
650	30	3,677	-1.2	-14.9	24	8.2
600	30	4,312	-4.7	-20.[illegible]	25	9.1
550	30	4,991	-8.8	-23.[illegible]	26	10.9
500	30	5,723	-13.8	-27.[illegible]	26	12.[illegible]
450	30	6,515	-19.2	-31.9	26	14.3
400	29	7,385	-25.6	-37.[illegible]	26	16.2
350	28	[illegible],348	-32.8	-43.7	26	17.0
300	28	[illegible],411	-41.2	-49.7	26	19.[illegible]
250	27	10,629	-49.9		25	22.[illegible]
200	27	12,066	-55.5		25	23.[illegible]
175	27	12,916	-56.8		25	22.9
150	27	13,890	-58.0		26	21.6
125	27	15,036	-59.3		26	18.0
100	26	16,433	-60.0		26	13.0
80	26	17,831	-58.6		26	[illegible].1
70	26	18,672	-58.1		25	6.4
60	26	19,645	-57.3		26	4.6
50	26	20,802	-56.2		27	2.3
40	25	22,228	-55.0		32	.8
30	23	24,079	-52.9		03	1.3
25	25	25,260	-51.2		07	1.2
20	23	26,717	-49.4		06	2.3
15	22	28,607	-47.3		08	2.7
10	13	31,303	-44.3		10	1.9

MERIDA, MEXICO
1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	11	22.9	22.5	10	.5
1000	30	114	24.5	22.9	12	3.2
950	30	566	23.7	19.9	13	6.6
900	30	1,038	21.3	15.4	12	6.2
850	30	1,532	18.3	11.8	12	6.[illegible]
800	30	2,050	15.5	8.9	12	4.4
750	30	2,596	12.4	3.9	13	4.2
700	30	3,171	9.1	.9	12	3.9
650	30	3,782	5.7	-3.1	11	3.6
600	30	4,434	2.1	-9.5	10	3.7
550	30	5,131	-1.9	-13.6	09	3.6
500	30	5,883	-6.4	-17.7	09	2.9
450	30	6,699	-11.4	-23.3	08	3.1
400	30	7,593	-17.3	-28.0	07	2.8
350	30	8,584	-24.1	-34.0	06	2.6
300	30	9,687	-32.4	-44.0	03	2.0
250	30	10,945	-42.5		34	2.0
200	30	12,414	-54.5		30	3.9
175	30	13,257	-60.9		31	4.7
150	29	14,198	-67.1		34	4.6
125	29	15,284	-72.4		01	4.2
100	29	16,589	-73.2		05	5.6
80	29	17,909	-68.6		08	8.7
70	28	18,713	-67.0		09	9.3
60	27	19,650	-63.9		09	10.5
50	26	20,774	-61.3		09	12.6
40	26	22,171	-57.8		08	14.3
30	25	23,998	-55.2		09	17.9
25	23	25,170	-53.0		09	19.3
20	23	26,618	-49.9		08	18.9
15	21	28,520	-45.2		08	18.3
10	9	31,242	-40.2			

MIDLAND, TX
915 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	874	21.0	12.3	18	1.[illegible]
1000						
950						
900	30	1,015	22.4	13.3	19	4.4
850	30	1,513	22.2	10.8	21	6.9
800	30	2,038	19.5	7.0	24	4.5
750	30	2,590	15.6	3.9	27	3.[illegible]
700	30	3,171	11.[illegible]	.8	28	3.3
650	30	3,785	6.6	-2.8	29	3.0
600	30	4,437	2.0	-7.6	30	4.1
550	30	5,134	-2.1	-14.9	30	4.1
500	30	5,885	-6.8	-21.8	29	4.[illegible]
450	30	6,699	-12.0	-26.3	29	6.5
400	30	7,590	-18.2	-31.6	28	[illegible].5
350	30	8,576	-25.6	-37.5	28	10.0
300	30	9,672	-34.0	-44.5	29	13.0
250	30	10,924	-43.6		29	15.8
200	30	12,388	-54.3		29	17.7
175	30	13,234	-59.6		29	17.[illegible]
150	29	14,185	-65.3		29	14.8
125	29	15,281	-70.3		29	11.8
100	29	16,599	-71.8		30	[illegible].9
80	28	17,924	-68.4		31	1.7
70	28	18,731	-65.0		07	1.9
60	28	19,678	-61.9		10	3.4
50	28	20,816	-58.7		10	4.0
40	28	22,226	-56.5		09	5.4
30	27	24,061	-53.5		09	[illegible].0
25	26	25,236	-51.6		09	[illegible].9
20	26	26,694	-48.[illegible]		09	[illegible].9
15	25	28,594	-46.7		09	10.5
10	21	31,302	-42.4		09	10.8
7	19	33,730	-38.3		10	10.5

MONTERREY, MEXICO
962 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	423	22.7	21.1	07	.[illegible]
1000						
950	30	563	22.6	20.5	09	1.0
900	30	1,033	20.5	16.9	12	3.5
850	30	1,527	19.3	11.8	12	4.[illegible]
800	30	2,048	17.1	4.9	12	3.[illegible]
750	30	2,595	14.0	.2	09	2.2
700	30	3,174	10.6	-3.5	05	[illegible].3
650	30	3,788	7.0	-6.8	02	3.0
600	30	4,441	2.8	-10.[illegible]	02	3.6
550	30	5,139	-1.7	-15.7	02	4.2
500	30	5,892	-6.2	-21.[illegible]	04	3.6
450	30	6,709	-10.9	-27.6	04	3.9
400	30	7,604	-17.1	-33.5	02	4.5
350	30	8,595	-24.4	-39.8	01	5.[illegible]
300	30	9,696	-32.8	-47.6	35	6.9
250	30	10,952	-42.9		35	8.0
200	30	12,418	-54.6		34	10.0
175	30	13,261	-60.7		33	9.3
150	29	14,206	-67.1		34	8.[illegible]
125	29	15,289	-73.3		34	6.6
100	27	16,586	-74.8		01	4.6
80	25	17,895	-70.0		05	4.3
70	25	18,698	-66.4		07	6.6
60	25	19,639	-63.8		08	7.[illegible]
50	24	20,765	-60.2		09	7.[illegible]
40	24	22,166	-58.0		08	[illegible].1
30	24	23,992	-55.1		07	12.[illegible]
25	24	25,160	-53.7		07	15.7
20	24	26,606	-50.1		08	16.9
15	23	28,499	-46.0		08	17.0
10	15	31,233	-41.1		08	17.6

MONETT, MO
964 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	438	17.7	16.1	15	1.[illegible]
1000						
950	30	567	19.5	15.7	18	2.7
900	30	1,034	19.2	13.[illegible]	22	[illegible].1
850	30	1,525	17.5	8.2	24	5.8
800	30	2,041	14.7	4.7	26	5.7
750	30	2,585	11.4	1.5	26	5.6
700	30	3,157	7.6	-2.0	27	5.8
650	30	3,764	3.7	-5.4	27	[illegible].0
600	30	4,410	-.3	-11.5	27	[illegible].6
550	30	5,100	-4.5	-17.2	27	7.6
500	30	5,845	-9.0	-23.0	27	9.0
450	30	6,653	-14.1	-27.4	27	9.7
400	30	7,536	-20.3	-32.3	27	10.[illegible]
350	30	8,514	-27.4	-38.6	27	12.6
300	30	9,602	-36.0	-45.8	27	14.[illegible]
250	30	10,842	-45.9		28	18.[illegible]
200	30	12,294	-56.0		28	20.[illegible]
175	30	13,134	-60.3		28	21.1
150	30	14,088	-63.6		28	18.5
125	30	15,198	-67.1		28	15.1
100	29	16,544	-67.6		29	7.5
80	29	17,895	-65.0		30	2.3
70	29	18,714	-62.3		31	1.2
60	28	19,676	-60.0		06	.7
50	28	20,821	-57.5		07	1.[illegible]
40	27	22,243	-54.[illegible]		08	2.4
30	26	24,098	-52.5		08	3.6
25	26	25,282	-50.4		08	4.[illegible]
20	24	26,738	-49.0		09	4.2
15	22	28,637	-46.3		08	4.5
10	13	31,337	-42.5		10	3.6

NASHVILLE, TN
995 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	180	19.1	17.[illegible]	14	.8
1000						
950	30	584	19.9	15.[illegible]	21	3.3
900	30	1,049	17.8	12.8	24	4.5
850	30	1,538	15.8	7.2	25	4.7
800	30	2,051	13.3	3.3	26	4.3
750	30	2,592	10.1	.7	27	4.4
700	30	3,162	6.2	-3.4	27	5.[illegible]
650	30	3,766	2.8	-8.5	27	5.3
600	30	4,410	-.6	-12.3	26	5.9
550	30	5,101	-4.7	-16.6	27	7.3
500	30	5,845	-9.0	-22.1	27	8.1
450	30	6,653	-14.1	-26.[illegible]	28	8.8
400	30	7,537	-20.0	-31.9	28	10.4
350	30	8,517	-27.0	-38.3	27	12.0
300	30	9,607	-35.4	-46.3	28	13.6
250	30	10,850	-45.3		28	15.2
200	30	12,304	-55.7		29	16.[illegible]
175	30	13,143	-61.2		29	17.7
150	30	14,091	-64.5		29	15.[illegible]
125	30	15,198	-67.2		29	11.3
100	30	16,541	-67.3		29	6.6
80	30	17,892	-64.7		30	2.6
70	30	18,714	-62.0		33	1.4
60	30	19,671	-60.2		04	1.3
50	30	20,816	-57.5		07	2.0
40	30	22,234	-55.1		08	2.0
30	30	24,083	-52.5		08	3.8
25	30	25,267	-50.5		09	4.9
20	28	26,738	-47.9		09	5.2
15	27	28,647	-45.8		08	5.[illegible]
10	19	31,359	-43.0		07	5.4

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1977

• NOME, AK
1005 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	29	5	6.0	3.6	23	1.2
1000	21	82	6.6	3.7	23	1.8
950	29	466	4.5	2.0	21	1.6
900	29	905	1.4	-.6	21	2.5
850	29	1,363	-1.0	-4.3	21	2.9
800	29	1,845	-3.1	-7.2	23	3.7
750	29	2,354	-5.7	-10.6	23	4.0
700	29	2,893	-8.7	-15.3	23	4.4
650	29	3,464	-11.8	-19.9	24	4.6
600	29	4,073	-15.[illegible]	-24.3	24	6.0
550	29	4,723	-20.2	-30.3	25	5.7
500	29	5,423	-25.1	-35.6	25	5.8
450	29	6,180	-30.7	-41.[illegible]	26	6.7
400	29	7,006	-36.8	-46.4	26	8.3
350	29	7,920	-43.0		26	9.9
300	28	8,945	-48.3		26	12.8
250	28	10,137	-50.5		26	15.4
200	28	11,600	-48.7		26	14.3
175	28	12,479	-48.5		26	14.[illegible]
150	28	13,492	-49.1		27	12.4
125	27	14,685	-49.9		26	10.6
100	24	16,138	-50.7		27	10.0
80	24	17,591	-51.3		27	7.7
70	24	18,458	-51.7		27	7.2
60	23	19,459	-52.9		27	6.2
50	23	20,633	-53.7		27	6.4
40	21	22,063	-53.9		28	6.3
30	19	23,910	-53.9		29	4.0
25	16	25,088	-53.2		28	5.5
20	14	26,535	-51.7		28	5.[illegible]
15	11	28,423	-50.1		29	6.3
10	6	31,174	-45.6			
7						

NORTH PLATTE, NE
917 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	847	12.0	8.6	14	.7
1000						
950						
900	30	1,001	14.8	10.0	18	1.8
850	30	1,487	15.6	6.5	22	3.5
800	30	2,001	14.5	2.1	26	4.8
750	30	2,544	12.[illegible]	-3.5	27	6.4
700	30	3,118	8.3	-6.8	27	7.6
650	30	3,746	3.8	-9.3	27	8.6
600	30	4,370	-.7	-13.2	27	10.4
550	30	5,059	-5.6	-18.3	27	10.4
500	30	5,800	-10.4	-23.6	27	12.3
450	30	6,603	-15.8	-29.1	27	14.5
400	30	7,480	-22.4	-35.5	27	16.4
350	30	8,449	-29.8	-42.0	27	19.4
300	30	9,526	-38.4	-49.4	27	21.5
250	30	10,754	-47.8		27	25.3
200	30	12,199	-55.4		27	26.1
175	30	13,045	-58.0		27	25.2
150	30	14,011	-60.9		27	21.3
125	30	15,140	-62.5		27	17.8
100	29	16,513	-63.1		27	12.4
80	29	17,888	-62.3		27	4.8
70	29	18,714	-61.4		27	3.4
60	29	19,678	-58.6		28	2.4
50	29	20,829	-56.8		31	1.3
40	29	22,250	-54.4		03	.9
30	28	24,102	-52.3		04	1.3
25	28	25,287	-50.5		05	1.4
20	25	26,746	-48.5		03	1.6
15	25	28,650	-45.9		07	1.8
10	19	31,391	-42.1		07	4.6
7	5	33,800	-39.4			

OAKLAND, CA
1013 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	6	14.7	12.5	25	1.0
1000	30	113	14.6	12.2	23	1.3
950	30	547	15.1	8.5	22	2.9
900	30	1,007	16.3	3.0	22	3.5
850	30	1,492	14.9	-.4	21	3.9
800	30	2,002	12.4	-4.4	22	4.3
750	30	2,540	9.6	-8.5	23	4.3
700	30	3,109	6.3	-12.2	24	4.9
650	30	3,713	3.2	-15.5	25	5.0
600	30	4,357	-.9	-19.2	25	5.9
550	30	5,046	-5.3	-23.2	26	7.6
500	30	5,787	-10.4	-26.4	26	9.0
450	30	6,589	-16.2	-33.0	25	10.4
400	30	7,464	-23.0	-38.0	25	11.7
350	30	8,431	-30.5	-44.5	25	13.4
300	30	9,505	-38.9	-52.0	25	16.6
250	30	10,731	-47.9		25	21.8
200	30	12,180	-54.5		25	26.6
175	30	13,030	-57.3		25	26.6
150	30	13,998	-60.4		25	23.4
125	29	15,131	-63.3		25	18.5
100	28	16,497	-64.1		25	12.7
80	28	17,869	-62.1		25	6.7
70	28	18,697	-60.9		25	3.5
60	27	19,660	-59.3		24	.9
50	27	20,807	-57.5		08	.8
40	27	22,222	-56.0		06	2.2
30	24	24,066	-53.4		08	4.8
25	23	25,243	-51.5		09	6.2
20	22	26,701	-50.2		09	6.9
15	21	28,591	-47.4		09	6.3
10	14	31,253	-45.2		08	3.6
7						

OMAHA, NE
967 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	403	15.0	12.8	15	.4
1000						
950	30	550	16.4	11.3	18	1.[illegible]
900	30	1,011	16.2	6.7	[illegible]	3.[illegible]
850	30	1,496	14.7	3.1	[illegible]	4.[illegible]
800	30	2,007	12.5	1.4	26	5.7
750	30	2,546	9.9	-2.0	27	7.3
700	30	3,116	6.6	-6.6	27	9.5
650	30	3,721	2.7	-10.7	27	9.9
600	30	4,363	-1.7	-14.3	28	10.5
550	30	5,049	-6.3	-19.2	28	12.1
500	30	5,789	-10.7	-24.[illegible]	27	13.4
450	30	6,591	-16.1	-29.7	28	14.5
400	30	7,467	-22.8	-35.[illegible]	28	16.3
350	30	8,436	-29.6	-41.2	28	18.7
300	30	9,514	-38.2	-48.7	27	21.4
250	30	10,743	-47.6		27	23.9
200	30	12,187	-56.2		27	25.1
175	30	13,030	-58.9		27	25.5
150	30	13,991	-61.4		28	23.5
125	30	15,119	-62.4		28	18.5
100	30	16,495	-63.4		28	11.2
80	30	17,865	-62.8		28	6.8
70	29	18,695	-60.8		29	4.7
60	29	19,659	-58.7		29	2.7
50	29	20,809	-57.1		30	1.6
40	29	22,227	-55.1		32	1.0
30	27	24,073	-52.4		02	.8
25	27	25,256	-50.8		34	.8
20	26	26,713	-48.6		34	.9
15	21	28,614	-45.7		34	1.6
10	18	31,340	-42.3		03	1.3
7	7	33,821	-39.4			

+ PAGO PAGO, AMERICAN SAMOA
[illegible] MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	5	27.9	22.5	12	[illegible]
1000	30	120	25.3	[illegible]	[illegible]	4.2
950	30	570	[illegible]	18.7	[illegible]	[illegible]
900	30	[illegible]	[illegible]	[illegible]	09	3.3
850	30	[illegible]	[illegible]	[illegible]	08	1.9
800	30	[illegible]	15.5	[illegible]	31	.6
750	30	[illegible]	13.3	[illegible]	31	1.3
700	30	[illegible]	9.8	[illegible]	30	2.2
650	30	[illegible]	6.2	[illegible]	31	3.0
600	30	[illegible]	2.4	-11.4	30	3.2
550	30	[illegible]	-1.7	-17.1	[illegible]	[illegible]
500	30	[illegible]	-5.9	-23.4	29	[illegible]
450	30	[illegible]	[illegible]	[illegible]	30	7.2
400	30	[illegible]	[illegible]	[illegible]	28	7.4
350	30	8,587	[illegible]	-39.5	27	8.7
300	30	[illegible]	-31.6	-45.9	28	9.7
250	30	[illegible]	-41.6		28	[illegible]
200	30	[illegible]	-53.7		26	12.7
175	30	[illegible]	[illegible]		26	[illegible]
150	30	14,220	-67.9		26	12.4
125	30	[illegible]	-74.2		27	9.9
100	30	[illegible]	-78.6		28	7.5
80	29	17,872	-72.0		27	3.1
70	29	18,669	-67.4		10	1.7
60	29	19,607	-64.0		09	7.1
50	29	20,732	-60.3		08	11.6
40	29	[illegible]	-58.6		09	12.6
30	29	23,948	-56.3		08	11.6
25	27	25,109	-53.3		09	8.5
20	26	26,561	-49.0		09	[illegible]
15	26	[illegible]	-45.6		09	1.6
10	21	31,196	-41.0		[illegible]	3.7
7	11	33,635	-37.1		26	6.4

• PEORIA, IL
992 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	200	14.9	12.8	15	.7
1000						
950	30	566	17.3	11.4	25	2.0
900	30	1,028	15.8	8.[illegible]	27	4.6
850	30	1,512	13.8	5.7	27	6.2
800	30	2,022	11.8	.6	27	7.9
750	30	2,559	8.9	-1.8	27	9.4
700	30	3,128	5.7	-4.2	27	10.2
650	30	3,731	2.2	-10.1	28	10.9
600	30	4,372	-1.[illegible]	-13.1	28	11.7
550	30	5,059	-6.1	-17.6	28	12.7
500	30	5,799	-10.8	-23.7	28	13.8
450	30	6,601	-15.7	-29.1	27	14.6
400	30	7,479	-22.1	-35.2	27	15.9
350	30	8,450	-29.3	-40.7	27	17.5
300	30	9,529	-37.6	-47.6	27	20.9
250	30	10,762	-47.0		27	25.8
200	30	12,208	-56.4		27	27.5
175	30	13,048	-59.8		27	27.3
150	30	14,008	-61.3		28	22.0
125	30	15,134	-63.7		28	17.2
100	30	16,503	-63.4		28	11.0
80	30	17,875	-62.3		28	6.[illegible]
70	29	18,707	-60.5		28	3.8
60	29	19,670	-59.2		30	[illegible].2
50	29	20,818	-57.0		32	1.7
40	28	22,245	-54.4		02	.8
30	27	24,103	-51.9		13	.2
25	25	25,293	-50.0		03	.9
20	24	26,764	-47.7		06	2.0
15	21	28,672	-45.7		07	2.0
10	15	31,386	-42.2		08	2.3

• PITTSBURGH, PA
975 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	29	359	15.5	12.9	24	1.4
1000						
950	29	577	16.8	12.7	26	3.3
900	29	1,038	14.8	10.0	27	6.2
850	29	1,520	12.2	7.9	27	7.7
800	29	2,027	9.7	2.5	27	8.8
750	29	2,561	7.3	-1.4	27	9.8
700	29	3,126	4.3	-5.1	27	11.2
650	29	3,727	1.2	-8.5	27	13.3
600	29	4,367	-2.4	-14.[illegible]	27	14.2
550	29	5,052	-6.4	-19.0	27	15.4
500	29	5,791	-11.[illegible]	-24.2	27	16.4
450	29	6,592	-16.4	-29.5	27	18.[illegible]
400	29	7,467	-22.6	-35.0	27	18.5
350	29	8,436	-29.9	-41.5	28	19.7
300	29	9,512	-38.[illegible]	-47.4	28	23.3
250	29	10,742	-47.7		28	26.9
200	29	12,188	-55.9		28	28.[illegible]
175	29	13,031	-59.1		28	27.4
150	29	13,991	-61.9		28	22.7
125	29	15,116	-62.7		28	17.4
100	29	16,492	-62.7		28	11.1
80	29	17,868	-61.8		28	7.1
70	29	18,699	-60.[illegible]		30	3.[illegible]
60	28	19,666	-58.7		30	2.3
50	28	20,818	-56.5		33	1.4
40	28	22,240	-54.6		05	1.2
30	27	24,097	-51.4		04	.8
25	24	25,283	-50.1		03	1.0
20	21	26,746	-47.9		06	.3
15	16	28,673	-45.2		08	2.9
10	5	31,395	-41.2			

+ PONAPE, CAROLINE IS.
1005 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	39	29.0	24.3	31	.4
1000	30	85	27.5	22.[illegible]	28	.4
950	30	539	23.8	20.6	20	.9
900	30	1,011	20.6	17.5	17	1.4
850	30	1,504	17.7	14.0	14	1.3
800	30	2,022	15.2	11.0	13	1.6
750	30	2,568	12.6	7.2	11	2.2
700	30	3,144	9.4	3.5	11	3.2
650	30	3,756	5.9	-.8	10	4.6
600	30	4,408	2.4	-5.2	10	5.5
550	30	5,107	-1.5	-10.5	10	[illegible].1
500	30	5,860	-5.6	-14.7	10	7.0
450	29	6,680	-10.2	-20.[illegible]	10	6.5
400	29	7,579	-15.7	-27.7	09	6.2
350	29	8,576	-22.4	-34.4	08	5.8
300	29	9,686	-30.6	-43.5	08	4.8
250	28	10,954	-41.1	-53.9	06	4.8
200	28	12,429	-53.8		06	6.6
175	28	13,273	-60.7		06	7.2
150	28	14,215	-68.4		06	6.3
125	27	15,291	-75.3		06	5.2
100	27	16,567	-78.8		08	6.4
80	26	17,853	-73.4		09	9.2
70	26	18,641	-70.5		09	12.1
60	26	19,561	-67.3		09	17.5
50	26	20,674	-62.9		09	23.9
40	26	22,064	-58.1		09	24.2
30	26	23,904	-52.3		10	4.9
25	26	25,087	-50.9		21	1.1
20	26	26,550	-48.2		24	3.2
15	24	28,457	-45.4		27	2.8
10	17	31,188	-40.9		10	3.8

PORTLAND, ME
1015 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	20	11.5	9.6	32	.3
1000	28	152	12.4	9.2	36	.9
950	30	574	11.7	6.5	30	1.2
900	30	1,025	10.0	4.3	28	2.5
850	30	1,499	7.4	1.3	27	4.0
800	30	1,997	5.3	-1.7	27	5.4
750	30	2,523	3.6	-6.4	28	7.3
700	30	3,080	.9	-8.9	28	9.3
650	30	3,673	-1.9	-12.9	28	12.0
600	30	4,306	-5.0	-18.0	28	13.8
550	30	4,985	-9.0	-22.0	27	14.9
500	30	5,717	-13.7	-26.3	27	16.5
450	30	6,510	-19.0	-31.4	27	19.1
400	30	7,376	-24.9	-38.5	27	22.5
350	30	8,336	-32.0	-43.9	28	24.3
300	30	9,404	-40.1	-49.3	28	26.5
250	30	10,625	-48.6		27	29.6
200	30	12,067	-55.9		28	30.6
175	30	12,912	-57.8		28	27.3
150	30	13,883	-58.5		27	24.3
125	30	15,027	-59.3		27	20.3
100	30	16,422	-59.8		28	16.3
80	30	17,821	-58.4		28	10.0
70	30	18,663	-57.6		28	7.4
60	30	19,640	-56.1		28	5.2
50	30	20,803	-54.7		28	3.8
40	29	22,233	-53.6		28	2.1
30	29	24,095	-51.1		23	.4
25	29	25,285	-49.6		25	1.2
20	29	26,751	-47.9		22	.2
15	21	28,688	-45.1		11	.9
10	12	31,428	-41.2		09	3.2

• QUILLAYUTE, WA
1007 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	58	9.6	9.0	11	1.0
1000	27	127	11.0	9.9	12	1.0
950	30	547	11.[illegible]	6.5	14	2.7
900	30	996	8.5	2.2	18	2.6
850	30	1,467	5.9	-1.5	21	2.6
800	30	1,961	3.4	-3.8	23	2.6
750	30	2,483	.7	-9.3	24	3.3
700	30	3,034	-2.3	-14.2	24	4.4
650	30	3,619	-5.4	-18.9	25	5.3
600	30	4,242	-9.3	-21.9	26	6.6
550	30	4,910	-13.6	-26.7	25	8.4
500	30	5,628	-18.2	-30.4	26	9.6
450	30	6,406	-23.6	-33.3	26	[illegible]
400	30	7,257	-30.0	-39.7	26	12.8
350	29	8,193	-36.1	-44.5	26	15.9
300	29	9,245	-42.9		26	18.5
250	29	10,456	-49.8		26	19.1
200	29	11,901	-53.0		26	19.0
175	29	12,759	-53.8		26	17.4
150	29	13,747	-54.6		27	15.7
125	29	14,911	-55.8		26	13.6
100	29	16,331	-56.3		27	10.8
80	29	17,749	-55.8		26	9.3
70	29	18,600	-55.6		26	7.5
60	29	19,584	-55.1		26	6.5
50	28	20,744	-54.7		26	5.9
40	28	22,175	-53.8		26	5.3
30	28	24,031	-52.2		27	5.1
25	25	25,223	-50.7		28	4.7
20	23	26,686	-48.9		28	4.6
15	21	28,586	-46.4		28	5.5
10	10	31,257	-43.9			

RAPID CITY, SD
904 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	966	10.9	6.4	31	.9
1000						
950						
900	22	1,021	12.0	5.8	30	1.2
850	30	1,483	14.1	2.6	24	2.5
800	30	1,993	12.6	-1.0	27	2.9
750	30	2,532	9.5	-3.6	27	4.5
700	30	3,100	[illegible].6	-7.4	27	7.0
650	30	3,702	1.6	-10.1	27	9.6
600	30	4,342	-3.0	-13.1	27	11.7
550	30	5,025	-8.1	-17.3	27	13.5
500	30	5,758	-13.1	-24.2	27	14.8
450	30	6,552	-18.5	-30.3	27	16.1
400	30	7,421	-24.5	-37.[illegible]	27	18.7
350	30	8,382	-31.7	-44.1	27	20.2
300	30	9,450	-40.5	-50.8	27	20.[illegible]
250	30	10,667	-49.7		27	24.1
200	30	12,103	-55.9		27	26.[illegible]
175	30	12,950	-57.2		27	25.7
150	30	13,922	-58.8		27	24.1
125	30	15,063	-59.[illegible]		27	19.4
100	30	16,456	-60.1		27	13.9
80	30	17,846	-60.0		27	8.3
70	30	18,681	-59.5		27	5.8
60	29	19,651	-58.5		28	4.1
50	29	20,803	-56.7		28	3.0
40	29	22,225	-54.6		30	2.7
30	28	24,081	-52.0		33	2.0
25	27	25,265	-50.6		33	2.1
20	27	26,726	-48.6		34	1.6
15	26	28,628	-45.8		35	1.2
10	24	31,363	-42.9		05	2.1
7	13	33,816	-39.4			
5	8	36,211	-35.0			

ST CLOUD, MN
977 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	316	11.2	10.0	04	.4
1000						
950	30	548	12.[illegible]	10.0	24	.8
900	30	1,002	11.2	7.3	27	3.2
850	30	1,479	9.5	2.7	28	4.5
800	30	1,981	7.7	-3.2	28	5.8
750	30	2,511	5.4	-7.[illegible]	27	7.6
700	30	3,071	2.3	-9.7	28	9.8
650	30	3,667	-1.2	-12.0	28	12.4
600	30	4,301	-4.5	-17.6	28	14.1
550	30	4,981	-8.9	-22.8	28	15.3
500	30	5,712	-13.4	-27.7	28	16.3
450	30	6,505	-19.4	-33.5	28	17.9
400	30	7,370	-25.3	-39.5	28	20.0
350	30	8,329	-32.4	-45.0	27	22.9
300	30	9,394	-40.8	-51.1	27	25.1
250	30	10,612	-49.1		27	27.7
200	30	12,051	-56.2		27	30.2
175	30	12,897	-57.3		27	28.5
150	30	13,871	-57.6		27	24.8
125	30	15,019	-58.7		28	21.0
100	30	16,421	-58.8		27	15.3
80	30	17,821	-59.1		28	11.2
70	30	18,660	-58.4		28	8.[illegible]
60	30	19,632	-57.4		29	5.8
50	30	20,789	-55.8		29	3.9
40	30	22,214	-54.6		29	3.2
30	30	24,067	-52.1		30	2.5
25	30	25,251	-50.7		30	2.4
20	28	26,704	-49.1		29	1.5
15	28	28,603	-46.5		29	2.6
10	20	31,307	-42.9		31	3.0

• ST PAUL ISLAND, AK
1014 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	10	8.5	6.2	25	3.6
1000	27	136	8.0	5.9	24	4.6
950	30	545	5.5	2.6	25	5.9
900	30	985	3.2	-.2	26	6.2
850	30	1,447	1.5	-4.7	26	6.4
800	30	1,934	.1	-10.5	25	7.3
750	30	2,449	-2.2	-13.8	26	7.9
700	30	2,995	-4.9	-17.3	26	8.6
650	30	3,574	-7.7	-22.0	26	9.7
600	30	4,193	-11.1	-25.3	26	10.5
550	30	4,856	-14.8	-29.0	27	12.3
500	30	5,571	-19.5	-32.2	26	13.8
450	30	6,347	-24.5	-34.2	27	15.1
400	30	7,195	-30.2	-39.7	27	17.6
350	30	8,136	-36.7	-43.2	26	18.9
300	30	9,184	-44.0	-45.9	26	22.2
250	30	10,387	-51.4		27	21.8
200	30	11,826	-53.6		27	18.1
175	30	12,685	-53.1		26	17.7
150	30	13,679	-53.4		27	14.6
125	30	14,850	-54.3		27	12.7
100	30	16,279	-54.8		27	10.0
80	30	17,707	-54.6		27	8.1
70	30	18,563	-54.4		27	7.2
60	30	19,551	-54.3		27	5.2
50	30	20,720	-54.3		27	5.3
40	29	22,150	-54.4		27	5.3
30	29	23,996	-54.0		29	5.1
25	29	25,169	-53.0		29	4.9
20	27	26,620	-51.4		28	6.0
15	22	28,502	-48.7		28	7.1
10	21	31,195	-44.6		28	9.3
7	12	33,636	-40.5			

SALEM, IL
995 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	174	17.1	15.9	14	1.0
1000						
950	30	571	19.2	13.6	21	3.1
900	30	1,035	17.1	9.7	24	4.2
850	30	1,522	15.4	4.5	26	5.9
800	30	2,034	13.0	1.4	27	6.4
750	30	2,574	10.1	-3.7	27	6.3
700	30	3,145	6.6	-5.6	28	6.8
650	30	3,749	3.0	-10.6	28	8.0
600	30	4,393	-1.4	-12.5	28	9.0
550	30	5,081	-5.5	-17.7	27	10.2
500	30	5,823	-9.6	-23.0	27	11.7
450	30	6,629	-14.5	-27.3	27	12.2
400	29	7,510	-20.9	-31.8	27	14.2
350	29	8,485	-28.[illegible]	-38.1	27	15.8
300	29	9,571	-36.3	-45.6	27	18.3
250	29	10,810	-45.9		28	22.3
200	29	12,261	-56.1		28	25.0
175	29	13,103	-59.7		28	23.4
150	29	14,058	-63.1		28	20.3
125	29	15,176	-64.8		28	15.1
100	29	16,535	-64.8		28	8.7
80	29	17,900	-63.3		29	4.3
70	29	18,725	-61.4		30	1.8
60	29	19,688	-58.9		32	.8
50	29	20,838	-56.5		02	.8
40	29	22,260	-54.5		05	.8
30	29	24,115	-51.6		08	1.7
25	28	25,307	-49.9		06	1.6
20	26	26,775	-48.0		08	2.8
15	24	28,684	-45.3		08	3.6
10	20	31,403	-42.1		09	1.7

SALEM, OR
1007 MB

Standard pressure surfaces mb	No. of observations	Dynamic height meters	Temperature (°C)	Dew Point (°C)	Resultant Wind Direction tens of deg	Resultant Wind Speed (m/s)
SFC	30	61	11.2	9.4	20	1.0
1000	29	126	12.7	10.7	20	.5
950	30	553	11.7	7.9	23	.9
900	30	1,005	10.1	4.9	24	[illegible]
850	30	1,479	8.0	-.5	24	4.3
800	30	1,977	5.8	-4.8	25	5.5
750	30	[illegible]	3.4	-7.2	25	6.5
700	30	3,060	.2	-12.0	25	7.1
650	30	3,651	-3.0	-15.9	25	8.0
600	30	4,281	-6.6	-20.2	25	9.1
550	30	4,955	-10.7	-23.2	26	10.4
500	30	5,682	-15.6	-26.4	26	12.2
450	30	[illegible]	-21.0	-31.5	26	14.6
400	30	7,328	-27.3	-37.7	27	15.1
350	30	[illegible]	-34.0	-43.1	26	17.1
300	30	9,338	-42.2	-47.9	26	18.8
250	30	10,550	-50.1		26	19.2
200	30	[illegible]	-54.4		26	[illegible]
175	30	12,845	-55.2		26	[illegible]
150	30	13,826	-56.2		26	[illegible]
125	29	14,979	-57.3		26	15.1
100	29	16,387	-57.8		26	12.4
80	29	17,796	-57.2		26	9.0
70	29	18,642	-56.5		26	7.9
60	28	19,623	-56.1		26	6.6
50	28	20,784	-55.2		27	4.8
40	27	22,214	-54.3		28	3.7
30	27	24,067	-52.5		28	2.6
25	26	25,251	-51.3		30	2.8
20	26	26,708	-49.2		31	[illegible]
15	22	28,617	-47.3		28	.4
10	13	31,326	-43.7		[illegible]	[illegible]

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UT
870 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	1,288	14.0	5.3	15	2.8
1000						
950						
900						
850	30	1,487	16.5	2.0	17	4.1
800	30	2,002	14.8	-1.3	19	5.0
750	30	2,545	10.9	-4.1	23	4.6
700	30	3,115	6.5	-6.8	24	6.2
650	30	3,7[illegible]8	1.7	-9.5	25	7.6
600	30	4,357	-3.4	-12.6	25	8.9
550	30	5,039	-8.1	-17.4	25	10.8
500	30	5,773	-12.6	-23.5	25	13.8
450	30	6,570	-17.7	-27.9	25	17.4
400	30	7,441	-24.0	-34.6	25	19.2
350	30	8,404	-31.3	-42.3	25	19.5
300	30	9,474	-39.8	-49.1	26	23.2
250	30	10,697	-48.6		25	28.1
200	30	12,140	-54.8		26	28.8
175	30	12,989	-57.2		26	27.8
150	30	13,958	-60.1		26	24.6
125	30	15,089	-62.3		26	19.6
100	30	16,465	-62.7		26	13.4
80	29	17,844	-62.5		26	6.2
70	29	18,670	-61.3		27	4.5
60	29	19,631	-59.6		28	2.4
50	29	20,778	-57.5		31	1.3
40	29	22,194	-55.8		01	.8
30	29	24,034	-53.7		04	2.7
25	29	25,212	-51.7		05	3.0
20	28	26,668	-49.8		06	3.3
15	25	28,560	-47.8		08	3.5
10	21	31,267	-44.3		10	3.2
7	11	33,671	-40.0		13	3.1

SAN DIEGO, CA
998 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	124	17.9	15.7	33	.8
1000	6	127	17.0	14.0		
950	30	548	17.3	10.1	34	1.2
900	30	1,011	18.2	3.1	28	1.0
850	30	1,500	18.0	-1.8	25	3.0
800	30	2,017	16.3	-4.1	23	5.6
750	30	2,563	13.1	-7.1	23	7.1
700	30	3,139	9.7	-9.4	22	7.7
650	30	3,750	6.0	-13.0	22	8.8
600	30	4,400	1.8	-16.5	22	9.3
550	30	5,096	-2.4	-20.9	23	10.0
500	30	5,845	-7.0	-25.3	24	11.3
450	30	6,659	-12.5	-30.7	24	12.8
400	30	7,546	-19.3	-34.5	25	13.3
350	30	8,527	-26.8	-40.8	25	16.4
300	30	9,618	-35.0	-48.6	25	20.2
250	30	10,864	-44.6		25	23.8
200	30	12,326	-54.5		25	28.2
175	30	13,171	-59.7		25	28.7
150	30	14,123	-64.8		25	25.8
125	30	15,225	-68.3		25	18.5
100	30	16,561	-68.7		25	8.1
80	30	17,900	-67.5		25	2.4
70	30	18,711	-64.5		34	1.4
60	30	19,660	-61.9		08	2.7
50	30	20,796	-59.2		09	4.8
40	30	22,203	-56.7		08	4.8
30	30	24,039	-54.0		08	8.8
25	30	25,214	-52.2		08	9.4
20	30	26,665	-50.4		09	9.3
15	28	28,554	-47.6		09	9.2
10	25	31,260	-43.4		08	9.2
7	7	33,601	-42.3			

SAN JUAN, P. R.
1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	6	24.5	22.9	12	1.4
1000	30	136	24.5	21.6	12	3.3
950	30	586	22.1	19.0	12	6.6
900	30	1,055	19.3	15.1	12	7.6
850	30	1,545	16.4	10.8	12	6.9
800	30	2,059	13.7	6.5	12	6.3
750	30	2,601	10.9	3.0	12	5.6
700	30	3,174	7.8	-2.9	12	4.8
650	30	3,783	5.0	-7.2	11	4.3
600	30	4,431	1.2	-10.7	11	3.3
550	30	5,127	-2.8	-15.8	11	3.0
500	30	5,876	-7.4	-21.1	11	2.8
450	30	6,688	-12.4	-25.9	12	1.8
400	30	7,579	-18.1	-31.9	11	1.5
350	30	8,565	-25.2	-38.0	08	1.7
300	30	9,662	-33.9	-45.7	04	1.1
250	30	10,913	-44.1		07	1.7
200	30	12,371	-56.0		36	1.8
175	30	13,210	-61.7		33	3.9
150	30	14,152	-66.9		32	4.8
125	30	15,244	-70.5		32	2.8
100	30	16,561	-72.2		09	1.8
80	30	17,877	-70.3		10	8.6
70	30	18,677	-67.5		10	11.3
60	30	19,612	-64.7		10	14.1
50	30	20,734	-61.7		10	16.7
40	29	22,130	-58.8		10	18.3
30	27	23,949	-55.8		11	20.8
25	25	25,108	-53.7		11	20.0
20	24	26,553	-49.8		10	18.1
15	22	28,448	-46.0		10	17.4
10	16	31,179	-40.8			
7	5	33,568	-40.8			

* **SAULT STE MARIE, MI**
988 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	221	10.7	9.7	05	.4
1000						
950	30	549	10.8	8.5	12	.7
900	30	999	8.8	5.6	22	1.4
850	30	1,472	7.1	2.8	26	3.0
800	30	1,969	5.3	-1.6	27	4.8
750	30	2,495	3.0	-5.0	27	6.8
700	30	3,051	.3	-9.1	27	8.4
650	30	3,643	-2.8	-12.0	27	10.2
600	30	4,273	-6.3	-17.9	27	11.5
550	30	4,949	-10.2	-22.4	28	12.5
500	30	5,677	-14.8	-27.2	28	14.3
450	30	6,467	-19.8	-32.6	28	17.6
400	30	7,330	-26.1	-38.6	28	19.8
350	30	8,285	-33.6	-44.9	28	20.8
300	30	9,345	-42.1	-49.9	28	23.1
250	30	10,557	-49.9		28	27.1
200	30	11,996	-55.4		28	30.9
175	30	12,847	-55.7		28	27.8
150	30	13,829	-56.1		28	23.2
125	30	14,986	-57.1		28	20.8
100	30	16,397	-57.4		28	15.8
80	29	17,807	-57.0		28	12.8
70	29	18,654	-56.5		29	10.2
60	29	19,634	-55.7		29	7.8
50	29	20,799	-54.4		29	5.4
40	29	22,232	-53.5		28	4.7
30	29	24,092	-51.2		29	2.4
25	29	25,281	-49.9		27	2.3
20	27	26,756	-48.1		29	2.7
15	25	28,652	-45.8		28	3.8
10	20	31,370	-41.8		02	1.7
7	5	33,847	-38.5			

SPOKANE, WA
930 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	720	8.6	5.7	16	1.6
1000						
950						
900	30	995	10.9	3.3	20	1.9
850	30	1,471	8.9	.0	22	3.2
800	30	1,970	5.6	-2.5	23	3.4
750	30	2,495	2.1	-5.2	23	4.4
700	30	3,049	-.8	-11.1	24	6.8
650	30	3,638	-4.2	-14.7	24	8.7
600	30	4,265	-8.2	-17.9	25	10.4
550	30	4,935	-12.6	-20.8	25	11.8
500	30	5,656	-17.5	-26.8	25	14.0
450	30	6,437	-22.8	-32.8	25	15.3
400	30	7,290	-29.1	-38.4	25	16.2
350	30	8,234	-35.8	-43.4	25	18.2
300	30	9,286	-43.1	-49.9	25	20.7
250	30	10,496	-50.1		26	22.1
200	30	11,938	-53.8		26	21.2
175	30	12,795	-54.4		26	20.9
150	30	13,782	-54.8		26	19.7
125	30	14,946	-56.0		26	16.1
100	30	16,363	-56.4		26	14.2
80	30	17,780	-56.2		26	11.3
70	30	18,629	-55.8		26	9.4
60	30	19,612	-55.3		26	7.1
50	30	20,777	-54.9		27	6.6
40	30	22,207	-54.1		27	5.4
30	30	24,059	-52.8		29	4.6
25	30	25,240	-51.4		29	5.2
20	30	26,695	-49.5		30	3.7
15	28	28,600	-47.1		30	3.6
10	26	31,303	-43.5		29	3.7
7	11	33,752	-39.7			

TAMPA BAY, FL
1015 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	13	23.0	22.1	11	1.2
1000	30	139	24.5	22.6	13	2.1
950	30	590	22.9	18.7	15	3.2
900	30	1,060	20.2	15.2	15	2.9
850	30	1,552	17.3	11.4	15	2.6
800	30	2,068	14.5	7.6	15	2.1
750	30	2,612	11.6	3.8	16	1.5
700	30	3,186	8.3	-1.4	16	1.0
650	30	3,795	4.8	-5.7	20	.7
600	30	4,444	1.2	-9.0	26	.6
550	30	5,139	-2.8	-15.4	29	.8
500	30	5,888	-7.3	-20.9	31	1.2
450	30	6,702	-12.3	-25.3	30	1.4
400	30	7,592	-18.4	-30.3	28	2.2
350	30	8,578	-25.2	-37.6	28	2.5
300	30	9,676	-33.8	-46.0	27	3.2
250	30	10,926	-44.0		28	4.0
200	30	12,386	-55.4		28	5.6
175	30	13,226	-61.4		29	5.9
150	30	14,168	-67.3		32	5.3
125	30	15,257	-70.8		34	4.5
100	30	16,577	-70.9		02	2.0
80	30	17,910	-67.5		08	2.4
70	30	18,721	-64.1		07	3.5
60	30	19,670	-62.0		08	6.0
50	30	20,807	-58.9		09	8.1
40	30	22,215	-56.6		09	9.5
30	30	24,052	-53.8		09	12.4
25	30	25,229	-51.8		09	14.3
20	30	26,685	-49.2		09	15.1
15	28	28,586	-45.8		09	16.5
10	26	31,314	-41.2		09	18.7
7	11	33,772	-38.0			

TOPEKA, KS
983 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	268	17.4	13.9	13	1.3
1000						
950	30	559	19.2	13.6	19	2.8
900	30	1,024	18.0	9.9	22	5.4
850	30	1,513	16.4	6.9	24	5.0
800	30	2,027	14.2	3.6	25	5.9
750	30	2,570	11.4	-.5	27	8.7
700	30	3,143	7.9	-4.1	27	7.1
650	30	3,751	4.2	-6.8	27	7.1
600	30	4,397	-.3	-10.8	28	7.3
550	30	5,087	-5.0	-14.9	27	9.8
500	30	5,830	-9.7	-21.4	27	11.2
450	29	6,633	-14.7	-28.0	27	13.1
400	29	7,514	-21.2	-33.4	28	14.8
350	29	8,488	-28.2	-39.4	28	16.5
300	29	9,572	-36.8	-47.9	28	17.7
250	29	10,809	-46.4		28	21.3
200	29	12,259	-55.9		28	24.4
175	29	13,102	-59.3		28	23.5
150	29	14,061	-62.0		28	21.5
125	29	15,181	-64.6		28	16.9
100	27	16,545	-65.3		29	9.7
80	27	17,905	-63.9		29	4.0
70	27	18,728	-61.7		30	3.0
60	27	19,689	-59.2		31	1.5
50	27	20,837	-57.2		05	1.0
40	27	22,256	-55.0		08	.9
30	25	24,107	-52.1		08	2.1
25	23	25,300	-50.4		07	2.2
20	22	26,767	-48.3		07	3.0
15	20	28,667	-45.4		08	2.0
10	18	31,385	-41.9		07	2.0
7	6	33,852	-38.4			

+ **TRUK, CAROLINE IS.**
1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	2	28.9	24.6	25	1.2
1000	30	99	27.6	23.4	24	1.3
950	30	552	23.8	21.5	22	1.9
900	30	1,025	21.1	17.8	22	1.9
850	30	1,519	18.0	14.3	21	1.4
800	30	2,038	15.8	11.3	17	1.1
750	30	2,584	13.1	8.0	18	1.3
700	30	3,162	10.0	3.8	14	2.0
650	30	3,776	6.4	.0	13	3.4
600	30	4,428	2.6	-3.8	12	4.6
550	30	5,128	-1.1	-9.5	12	5.7
500	30	5,883	-5.2	-13.1	12	6.3
450	30	6,704	-9.9	-18.0	11	6.4
400	30	7,604	-15.3	-24.4	10	6.6
350	29	8,602	-22.0	-33.3	10	6.3
300	29	9,715	-30.2	-43.7	09	6.8
250	29	10,985	-40.6	-50.1	06	7.1
200	29	12,464	-53.2		05	8.7
175	28	13,310	-60.2		04	9.7
150	28	14,254	-67.8		05	9.6
125	28	15,331	-75.2		07	8.1
100	28	16,608	-78.2		08	8.7
80	28	17,902	-72.3		09	11.0
70	28	18,694	-69.1		09	13.2
60	27	19,623	-66.4		09	17.5
50	27	20,738	-62.3		09	22.7
40	27	22,131	-58.0		09	25.2
30	25	23,971	-52.3		10	8.2
25	25	25,156	-50.1		14	1.2
20	25	26,620	-48.2		24	2.7
15	25	28,525	-45.9		22	2.0
10	17	31,246	-40.4		10	4.2
7	7	33,708	-37.8			

* **TUCSON, AZ**
923 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	789	22.9	13.7	14	2.4
1000						
950						
900	30	1,013	24.6	12.0	15	2.2
850	30	1,513	22.1	9.0	20	1.1
800	30	2,037	18.2	7.0	23	1.8
750	30	2,586	14.2	4.5	22	3.4
700	30	3,165	10.3	-.3	23	4.5
650	30	3,778	6.2	-3.2	23	5.6
600	30	4,429	2.1	-7.8	23	5.7
550	30	5,126	-2.8	-12.9	23	6.7
500	30	5,876	-7.1	-19.8	24	8.5
450	30	6,691	-11.9	-26.0	24	10.4
400	30	7,582	-18.3	-31.9	25	11.8
350	30	8,567	-25.5	-37.8	26	13.4
300	30	9,664	-34.8	-45.4	26	16.1
250	30	10,916	-43.8		26	19.8
200	30	12,381	-54.2		26	23.4
175	30	13,227	-59.8		26	22.5
150	30	14,177	-65.8		26	20.2
125	30	15,274	-70.0		26	14.7
100	30	16,594	-71.3		27	7.0
80	30	17,920	-68.7		31	1.8
70	30	18,727	-65.1		04	2.0
60	30	19,674	-61.8		09	3.0
50	30	20,813	-58.6		09	4.6
40	30	22,222	-56.4		09	6.1
30	29	24,057	-54.4		09	8.6
25	27	25,233	-52.8		09	9.4
20	27	26,685	-49.9		09	8.8
15	25	28,587	-47.0		08	10.3
10	22	31,310	-42.5		09	13.3
7	12	33,772	-37.8			

* **VANDENBERG AFB, CA**
1002 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	100	13.5	11.9	03	.3
1000	28	121	13.8	12.3	36	.5
950	30	553	16.1	7.4	36	2.3
900	30	1,014	17.0	2.5	05	1.3
850	30	1,500	15.9	-2.9	15	.7
800	30	2,013	13.6	-5.2	23	1.4
750	30	2,554	11.2	-10.4	24	2.5
700	30	3,125	8.0	-13.1	24	3.8
650	30	3,733	5.1	-15.8	25	5.2
600	30	4,381	1.2	-19.3	24	6.5
550	30	5,075	-3.3	-22.6	24	7.8
500	30	5,822	-8.4	-26.2	24	9.8
450	30	6,631	-13.9	-30.5	24	11.4
400	30	7,514	-20.8	-35.5	24	15.5
350	30	8,489	-28.4	-41.4	24	18.6
300	30	9,573	-36.6	-49.2	24	23.2
250	30	10,810	-46.0		24	27.2
200	30	12,264	-54.8		25	30.5
175	30	13,110	-58.8		25	30.7
150	30	14,069	-62.8		25	25.1
125	30	15,183	-66.1		25	18.3
100	27	16,531	-66.8		25	10.9
80	25	17,888	-64.8		25	4.4
70	24	18,709	-63.4		25	.9
60	23	19,663	-61.4		09	.9
50	23	20,801	-58.9		09	3.2
40	22	22,214	-56.4		09	4.5
30	20	24,060	-53.7		08	7.7
25	19	25,228	-52.0		08	9.6
20	18	26,680	-50.1		09	10.2
15	17	28,577	-47.2		09	9.7
10	15	31,295	-43.9		09	9.6
7	10	33,716	-39.5			

VICTORIA, TX
1009 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	33	23.3	22.8	15	.6
1000	30	112	24.7	22.9	18	1.9
950	30	563	23.4	19.7	19	5.8
900	30	1,035	21.1	14.8	19	5.1
850	30	1,529	18.4	10.3	19	3.5
800	30	2,047	15.7	6.6	18	2.1
750	30	2,592	12.6	1.6	16	.5
700	30	3,168	9.5	-3.5	04	1.6
650	30	3,780	6.1	-8.3	03	2.4
600	30	4,431	2.5	-13.4	01	2.9
550	30	5,130	-1.5	-17.9	36	2.7
500	30	5,882	-6.2	-22.9	34	3.0
450	30	6,699	-11.5	-28.6	32	3.5
400	30	7,591	-17.5	-34.1	33	4.4
350	29	8,580	-24.6	-39.1	33	4.6
300	29	9,679	-33.4	-47.2	33	6.1
250	29	10,933	-43.4		33	7.3
200	29	12,398	-54.4		33	8.5
175	29	13,242	-60.3		32	9.1
150	29	14,190	-66.2		32	8.9
125	29	15,280	-71.5		33	6.5
100	29	16,591	-72.4		34	3.6
80	28	17,914	-68.3		03	3.3
70	28	18,721	-65.9		08	8.1
60	28	19,665	-62.3		10	5.0
50	27	20,801	-59.5		09	5.6
40	27	22,209	-56.7		09	8.3
30	27	24,044	-53.8		08	11.8
25	27	25,220	-52.8		09	13.6
20	22	26,676	-49.6		09	14.8
15	20	28,570	-45.8		09	14.6
10	19	31,295	-41.6		08	15.8
7	11	33,737	-37.7			
5						

* **WAKE IS., PACIFIC AREA**
1013 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	5	28.2	24.1	07	4.9
1000	30	120	27.8	23.2	07	5.4
950	30	573	23.2	20.8	08	5.9
900	30	1,044	20.3	16.5	08	5.9
850	30	1,536	17.2	13.2	08	4.9
800	30	2,053	14.8	9.3	08	4.5
750	30	2,597	11.8	6.5	08	4.1
700	30	3,172	9.2	-.8	08	3.0
650	30	3,784	6.0	-6.7	08	2.9
600	30	4,435	2.2	-11.1	07	2.3
550	30	5,132	-2.1	-15.7	05	1.7
500	30	5,883	-6.7	-20.8	05	1.3
450	30	6,698	-11.8	-25.8	35	.9
400	30	7,590	-17.8	-30.7	32	1.4
350	29	8,579	-24.7	-37.3	27	2.9
300	29	9,679	-33.2	-44.4	27	4.9
250	29	10,934	-43.1		28	8.2
200	28	12,401	-55.1		28	10.7
175	28	13,242	-60.9		28	10.2
150	28	14,186	-67.2		27	6.8
125	28	15,272	-72.4		29	3.0
100	28	16,575	-74.9		06	4.5
80	28	17,881	-71.9		08	9.3
70	28	18,674	-68.4		08	11.0
60	28	19,606	-65.2		09	13.3
50	28	20,726	-62.0		09	15.5
40	27	22,114	-59.9		09	16.4
30	27	23,927	-56.4		09	18.7
25	27	25,089	-54.5		09	20.1
20	27	26,530	-51.1		09	19.0
15	26	28,413	-47.8		09	19.0
10	22	31,128	-41.9		09	19.6
7	18	33,555	-37.2		09	19.6
5	9	35,907	-34.1			

* **WALLOPS ISLAND, VA NASA**
1017 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	4	20.0	18.1	29	.2
1000	30	148	20.9	16.8	27	1.1
950	30	592	19.4	13.2	27	2.9
900	30	1,056	16.8	9.5	28	3.5
850	30	1,541	14.2	5.6	28	5.3
800	30	2,052	11.5	2.8	28	6.7
750	30	2,589	9.3	-2.2	27	7.6
700	30	3,159	6.4	-6.3	27	8.7
650	30	3,763	2.9	-8.8	27	9.5
600	30	4,407	-.7	-11.8	28	10.5
550	30	5,097	-4.6	-16.9	27	11.8
500	30	5,841	-9.3	-22.4	27	12.4
450	30	6,648	-14.3	-26.8	27	13.3
400	30	7,531	-20.6	-32.7	27	12.8
350	28	8,514	-27.5	-39.9	27	15.1
300	28	9,602	-36.0	-47.6	27	17.0
250	27	10,850	-45.7		27	18.3
200	27	12,302	-56.0		28	20.2
175	27	13,142	-60.9		28	20.4
150	27	14,091	-64.3		27	16.9
125	27	15,203	-65.7		27	13.2
100	27	16,559	-65.7		28	9.5
80	27	17,922	-63.1		30	4.2
70	27	18,748	-61.0		30	1.7
60	27	19,712	-58.7		35	1.2
50	27	20,864	-56.1		09	.7
40	27	22,291	-53.8		07	2.2
30	27	24,149	-51.3		08	2.8
25	26	25,333	-49.8		09	3.5
20	25	26,798	-47.6		10	4.1
15	24	28,716	-45.1		09	3.4
10	19	31,433	-42.2		10	4.1
7						
5						

WASHINGTON DULLES INT. AP
1007 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	85	15.8	14.6	31	.3
1000	26	154	16.6	14.6	32	.4
950	30	584	17.9	11.6	27	2.3
900	30	1,046	15.7	9.0	28	4.5
850	30	1,529	12.9	5.8	28	5.6
800	30	2,037	10.5	2.0	28	6.6
750	30	2,573	8.3	-3.2	28	7.4
700	30	3,140	5.3	-5.4	28	8.5
650	30	3,742	1.8	-8.0	28	9.9
600	30	4,384	-1.8	-12.7	27	11.7
550	30	5,071	-5.9	-18.6	28	12.3
500	30	5,812	-10.2	-24.0	28	13.5
450	30	6,616	-15.5	-30.5	28	14.2
400	30	7,494	-21.7	-35.7	27	15.6
350	30	8,467	-28.7	-40.9	27	17.4
300	30	9,549	-37.1	-46.7	27	18.7
250	30	10,784	-46.6		27	21.1
200	30	12,232	-56.1		28	23.1
175	30	13,072	-60.4		28	22.8
150	30	14,026	-63.2		28	19.4
125	30	15,142	-64.7		27	14.1
100	30	16,503	-64.8		28	9.9
80	30	17,870	-62.9		29	5.3
70	30	18,696	-61.1		29	3.5
60	30	19,657	-59.4		30	1.6
50	30	20,807	-56.5		30	1.0
40	29	22,234	-54.8		35	1.2
30	28	24,086	-51.6		08	1.8
25	27	25,276	-50.2		09	1.3
20	25	26,742	-47.8		07	1.9
15	22	28,650	-45.9		10	1.2
10	16	31,378	-42.5		11	1.6
7	7	33,782	-39.1			
5						

WAYCROSS, GA
1011 MB

Standard pressure surface (mb)	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	44	21.5	21.0	09	.1
1000	30	137	22.6	21.3	15	.5
950	30	586	22.1	18.5	19	1.9
900	30	1,055	19.7	14.5	21	2.4
850	30	1,546	16.7	11.0	23	2.7
800	30	2,062	14.0	6.1	24	3.1
750	30	2,604	11.0	3.1	25	2.8
700	30	3,177	7.9	-1.9	26	3.1
650	30	3,785	4.6	-6.1	26	2.8
600	30	4,433	.9	-10.3	26	3.1
550	30	5,128	-3.1	-16.0	27	3.4
500	30	5,876	-7.4	-19.8	27	3.9
450	30	6,689	-12.6	-24.6	27	4.0
400	30	7,579	-18.5	-29.7	27	4.6
350	30	8,564	-25.6	-37.4	26	5.1
300	30	9,660	-34.2	-45.3	27	5.9
250	30	10,909	-44.3		28	7.2
200	30	12,366	-55.9		28	8.3
175	30	13,205	-61.4		29	8.6
150	30	14,148	-66.7		29	7.8
125	30	15,240	-69.9		31	4.7
100	29	16,567	-69.9		32	2.1
80	29	17,909	-65.7		04	1.3
70	29	18,726	-62.7		06	2.1
60	29	19,682	-60.5		08	3.5
50	29	20,825	-57.7		08	4.9
40	29	22,240	-55.4		09	6.8
30	29	24,089	-52.1		09	10.0
25	27	25,279	-50.0		09	10.9
20	26	26,746	-47.7		09	11.5
15	25	28,651	-45.7		09	12.2
10	19	31,373	-41.7		09	15.3
7	7	33,770	-37.6			
5						

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1977

Standard pressure surface mb	WEST PALM BEACH, FL 1015 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	7	24.2	22.0	11	1.1
1000	30	139	25.7	23.4	13	2.0
950	30	590	22.6	19.9	14	3.8
900	30	1,060	19.9	16.0	15	3.6
850	30	1,552	16.9	11.7	14	3.2
800	30	2,067	14.2	8.7	14	2.6
750	30	2,611	11.3	4.9	13	2.1
700	30	3,184	8.3	.0	12	1.3
650	30	3,794	5.0	-3.0	10	.9
600	30	4,444	1.3	-7.5	07	.8
550	29	5,140	-2.7	-13.0	08	.2
500	29	5,890	-7.1	-18.3	08	.1
450	29	6,704	-12.1	-23.2	24	.6
400	29	7,595	-17.9	-30.0	28	1.3
350	29	8,582	-25.1	-37.0	27	2.0
300	29	9,681	-33.5	-43.4	26	2.4
250	29	10,933	-43.9		26	3.4
200	29	12,392	-56.0		28	4.0
175	29	13,229	-61.9		30	4.7
150	29	14,170	-67.2		32	5.8
125	29	15,259	-70.6		35	4.5
100	29	16,581	-70.4		02	2.8
80	28	17,919	-66.7		08	2.9
70	28	18,731	-64.1		07	3.8
60	28	19,680	-62.2		08	7.2
50	28	20,816	-58.7		09	10.0
40	28	22,227	-56.1		09	10.9
30	28	24,071	-52.8		09	13.7
25	28	25,255	-50.3		09	15.4
20	28	26,722	-47.5		09	16.2
15	26	28,633	-44.8		09	17.2
10	21	31,377	-39.9		09	20.0
7	11	33,838	-34.9			

Standard pressure surface mb	WINNEMUCCA, NV 868 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,312	8.4	-3.3	23	.7
1000						
950						
900						
850	30	1,484	14.7	-1.1	24	1.0
800	30	1,995	12.9	-3.0	24	2.7
750	30	2,534	9.1	-5.5	25	4.9
700	30	3,100	4.8	-8.2	24	6.8
650	30	3,700	.6	-11.1	24	9.0
600	30	4,338	-3.9	-14.0	23	10.9
550	30	5,019	-8.4	-19.5	24	13.0
500	30	5,752	-12.9	-25.1	25	13.2
450	29	6,553	-18.1	-29.8	25	14.4
400	29	7,422	-24.[illegible]	-36.3	25	15.7
350	28	8,380	-31.9	-42.8	25	17.0
300	28	9,448	-40.3	-50.3	26	19.6
250	28	10,668	-48.8		25	23.2
200	28	12,111	-55.2		25	26.4
175	28	12,960	-57.[illegible]		25	27.2
150	28	13,932	-59.0		25	23.8
125	27	15,073	-61.3		25	19.0
100	25	16,459	-62.5		25	13.6
80	24	17,842	-61.4		26	7.0
70	22	18,677	-60.3		25	4.0
60	22	19,641	-59.3		27	2.6
50	21	20,788	-56.9		30	1.3
40	20	22,213	-55.4		02	.7
30	20	24,059	-52.6		04	1.7
25	19	25,251	-51.1		07	2.[illegible]
20	19	26,709	-49.7		09	3.0
15	19	28,601	-47.6		10	3.7
10	13	31,336	-43.3		11	2.5
7						

Standard pressure surface mb	WINSLOW, AZ 852 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	1,487	15.2	9.9	16	1.7
1000						
950						
900						
850	27	1,517	16.4	7.5	18	1.6
800	30	2,032	17.3	4.8	24	5.2
750	30	2,580	13.4	2.1	25	7.5
700	30	3,157	9.7	-2.6	24	8.2
650	30	3,769	5.7	-7.0	24	7.4
600	30	4,418	1.1	-10.6	25	8.3
550	30	5,112	-3.7	-14.3	25	9.3
500	30	5,859	-8.2	-21.0	25	10.0
450	30	6,669	-13.4	-26.6	26	12.9
400	29	7,553	-20.0	-32.0	26	14.5
350	29	8,532	-27.3	-38.6	26	17.0
300	29	9,620	-35.6	-47.2	26	20.8
250	29	10,864	-45.1		26	25.6
200	29	12,323	-54.5		26	29.1
175	29	13,169	-59.2		26	29.2
150	29	14,124	-63.8		26	25.0
125	29	15,230	-67.9		26	18.8
100	29	16,569	-68.8		26	10.5
80	29	17,906	-67.5		27	3.9
70	29	18,717	-64.2		32	1.7
60	29	19,668	-61.2		06	.5
50	29	20,809	-58.1		09	2.2
40	29	22,221	-56.3		09	3.4
30	29	24,059	-54.0		09	5.7
25	27	25,235	-52.2		09	6.2
20	24	26,686	-50.2		09	5.7
15	21	28,575	-47.6		09	6.0
10	15	31,261	-44.6		09	5.0
7						

Standard pressure surface mb	YAKUTAT, AK 1010 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	12	6.8	6.2	08	.9
1000	27	110	10.2	7.2	12	1.1
950	30	524	9.2	3.2	18	2.0
900	30	970	6.3	-.5	18	2.4
850	30	1,436	3.2	-3.4	18	2.7
800	30	1,925	.3	-6.0	19	3.1
750	30	2,440	-2.7	-8.8	20	3.3
700	30	2,984	-6.1	-12.9	24	3.0
650	30	3,561	-9.0	-17.2	25	3.9
600	30	4,177	-12.4	-21.8	26	4.4
550	30	4,837	-16.7	-26.6	26	5.3
500	30	5,546	-21.4	-30.6	26	5.3
450	30	6,315	-26.5	-36.5	27	5.7
400	30	7,156	-32.4	-41.5	28	7.0
350	30	8,088	-38.9	-44.1	28	7.4
300	30	9,127	-45.8		29	8.5
250	30	10,323	-52.1		29	11.1
200	30	11,759	-53.2		30	10.4
175	30	12,622	-52.0		30	10.6
150	30	13,619	-52.7		29	10.[illegible]
125	30	14,797	-52.7		29	8.7
100	30	16,237	-52.9		29	7.6
80	30	17,675	-53.6		29	5.7
70	30	18,535	-53.4		29	5.8
60	30	19,526	-53.9		29	5.8
50	30	20,697	-54.0		29	5.6
40	29	22,129	-54.3		29	4.9
30	28	23,977	-53.7		29	5.3
25	27	25,154	-52.7		29	4.7
20	25	26,608	-50.8		29	6.4
15	22	28,499	-48.8		28	7.3
10	21	31,188	-45.2		28	8.5
7	10	33,632	-41.0			

Standard pressure surface mb	YUCCA FLAT, NV 880 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,198	12.2	2.5	25	.7
1000						
950						
900						
850	30	1,49[illegible]	18.9	.8	21	1.9
800	30	[illegible]	15.8	-1.4	21	5.8
750	30	2,552	11.9	-3.6	21	6.2
700	30	3,125	8.1	-7.6	22	6.1
650	30	3,733	4.0	-10.6	22	[illegible]
600	30	4,379	.1	-15.6	23	7.5
550	30	5,075	-4.4	-20.[illegible]	24	9.2
500	30	5,814	-9.[illegible]	-25.[illegible]	24	11.6
450	30	6,582	-14.4	-3[illegible].5	25	13.4
400	30	7,5[illegible]	-21.3	-35.9	25	15.6
350	30	8,477	-28.0	-42.[illegible]	25	17.2
300	30	9,559	-37.2	-49.7	25	20.5
250	30	10,794	-46.5		25	23.9
200	30	12,247	-54.7		25	26.0
175	30	13,094	-58.3		25	24.1
150	30	14,356	-61.8		26	22.5
125	30	15,177	-64.4		26	16.9
100	30	16,536	-65.2		25	9.9
80	30	17,895	-64.5		26	5.8
70	30	18,716	-62.6		27	2.7
60	30	19,673	-60.2		28	.7
50	30	20,817	-58.2		14	.3
40	30	22,229	-56.1		07	1.4
30	30	24,070	-53.4		08	3.4
25	30	25,248	-51.4		08	4.7
20	28	26,702	-49.3		09	5.4
15	18	28,626	-47.4		10	5.1
10	8	31,349	-43.5			
7						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

SEPTEMBER 1977

ALBUQUERQUE, NM

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
3	----	----	----	----	----	----	----	.91	.81
4	----	----	1.01	----	----	----	1.05	----	----
5	----	----	----	----	1.35	----	----	----	----
6	.88	.99	1.09	1.24	1.41	----	----	----	----
7	.78	.90	1.02	1.18	1.36	----	----	----	----
8	.82	.94	1.05	1.19	1.37	1.13	(.88)	(.71)	(.60)
9	----	----	----	(1.06)	(1.24)	----	----	----	----
10	.73	.84	.97	1.12	1.34	----	----	----	----
12	----	----	----	----	----	----	----	.99	----
13	----	----	1.02	----	1.44	1.23	1.09	.99	.90
14	.92	1.02	1.13	1.25	1.41	1.23	1.04	----	----
15	----	----	----	----	----	1.18	1.00	----	----
17	----	----	----	----	----	1.30	1.18	1.06	.88
18	1.01	1.09	1.21	1.34	1.46	1.34	1.20	1.09	.99
19	.97	1.05	1.16	1.30	1.43	----	----	----	----
20	.92	1.01	1.14	1.28	1.41	----	----	----	----
21	1.01	1.10	1.23	1.36	1.49	1.33	1.19	1.10	1.00
22	----	1.08	----	----	----	----	----	----	----
23	----	----	----	----	----	1.29	1.14	----	.92
24	.96	1.04	1.16	1.30	(1.43)	----	----	----	(.98)
25	1.01	1.09	1.20	1.33	1.48	1.35	1.21	1.10	1.02
28	----	----	----	----	----	1.25	(1.12)	.97	.88
29	1.00	1.07	1.17	1.31	1.45	----	----	----	----
Averages	.92	1.02	1.11	1.27	1.42	1.26	1.12	1.03	.93

MADISON, WI

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
8	----	----	----	----	----	H .90	H .70	H .55	H .46
9	----	----	----	----	S 1.31	S 1.12	S .95	S .81	S .68
10	S .83	S .93	S 1.04	S 1.17	S 1.28	----	----	S .85	S .75
11	M .65	M .76	M .89	----	M 1.21	----	----	----	----
14	----	----	----	S 1.08	S 1.28	----	----	----	----
26	S .81	S .92	S 1.03	S 1.17	----	----	----	----	----
28	S .76	S .88	----	S 1.11	----	----	----	----	----
Averages	.78	.87	.98	1.13	1.27	1.01	.83	.74	.63

TUCSON, AZ

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
2	.78	.87	.99	1.13	1.34	.91	.75	----	----
3	.71	.83	.97	1.13	1.30	1.01	.82	.65	----
4	----	----	----	.87	1.13	----	----	----	----
5	----	----	----	----	1.18	1.06	.89	.78	.67
6	.76	.84	.97	1.17	1.36	1.14	.99	.85	.77
7	.81	.90	1.02	1.14	1.29	1.11	.90	.77	.66
8	.70	.81	.92	1.08	1.29	1.07	.87	.72	.63
9	.55	.66	.82	1.01	1.23	----	----	----	----
11	.78	.85	.97	1.09	----	----	----	----	----
12	----	.81	.94	1.13	1.34	1.11	----	----	----
13	.70	.82	.94	1.12	1.27	1.10	.89	----	.65
14	.75	.82	.95	1.09	1.32	----	----	----	----
15	.86	.98	----	----	----	----	----	----	----
16	----	----	----	1.27	----	----	----	----	----
17	.85	.95	1.07	1.23	1.40	1.27	1.11	.99	.90
18	.88	.98	1.09	1.24	1.39	1.20	1.03	.89	.80
19	.86	.94	1.08	1.23	1.38	1.25	1.12	.99	.87
20	.92	1.01	1.11	1.26	1.38	1.24	1.07	.97	.87
21	.90	1.00	1.11	1.24	1.41	1.25	1.12	1.02	.92
24	----	----	----	1.23	----	1.28	1.14	1.03	.92
25	.96	1.04	1.14	1.28	1.40	1.22	1.08	.98	.87
27	----	----	.94	1.06	----	1.01	.87	.71	.63
28	.65	.70	.82	1.01	1.34	1.09	.93	.84	.74
29	.83	.92	1.04	1.19	1.35	1.21	1.09	.99	.89
30	.94	1.04	1.12	1.28	1.42	1.23	1.09	.97	.87
Averages	.80	.89	1.00	1.15	1.33	1.15	.99	.88	.79

BLUE HILL OBSERVATORY, MA

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HI

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1	1.18	1.26	1.35	1.45	1.54	1.44	1.35	1.25	1.18
2	1.22	1.29	1.38	1.49	1.62	----	1.33	1.25	1.18
3	1.20	1.28	1.37	1.47	1.57	1.44	1.34	1.25	1.20
5	1.21	1.30	1.39	1.49	----	----	----	----	----
10	1.13	1.20	1.30	1.40	----	----	----	----	----
11	1.11	1.18	1.27	1.39	1.52	----	----	----	----
12	1.15	1.21	1.31	1.41	----	----	----	----	----
13	1.15	1.23	1.30	1.41	1.53	----	----	----	----
14	1.13	1.20	1.29	1.40	1.50	1.38	1.21	1.12	1.03
15	1.11	1.19	1.28	1.39	----	----	----	----	----
16	1.11	1.19	1.28	1.40	1.53	----	----	----	----
17	1.12	1.20	1.29	1.40	----	----	----	----	----
18	1.10	1.19	1.29	1.40	----	----	----	----	----
21	1.08	1.17	1.25	1.37	----	----	----	----	----
22	1.09	1.18	1.28	1.39	1.54	1.42	1.31	1.23	1.16
23	1.18	1.26	1.35	1.45	1.58	1.43	1.32	1.24	1.16
24	1.17	1.25	1.34	1.46	----	----	----	----	----
25	1.17	1.26	1.35	1.46	----	----	----	----	----
26	1.18	1.25	1.32	1.42	----	----	----	----	----
27	1.17	1.25	1.35	1.46	1.58	1.43	1.34	1.30	1.19
30	1.15	1.23	1.32	1.42	----	----	----	----	----
Averages	1.15	1.20	1.32	1.43	1.55	1.42	1.31	1.23	1.15

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

SEPTEMBER 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	80	131	98	137	105	77	25	27	89	55	13	10	52	33	71	4	14	58	11	79	-16	5	8	32	28	4	3	9	14	13		46

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa.

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
†	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
___	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

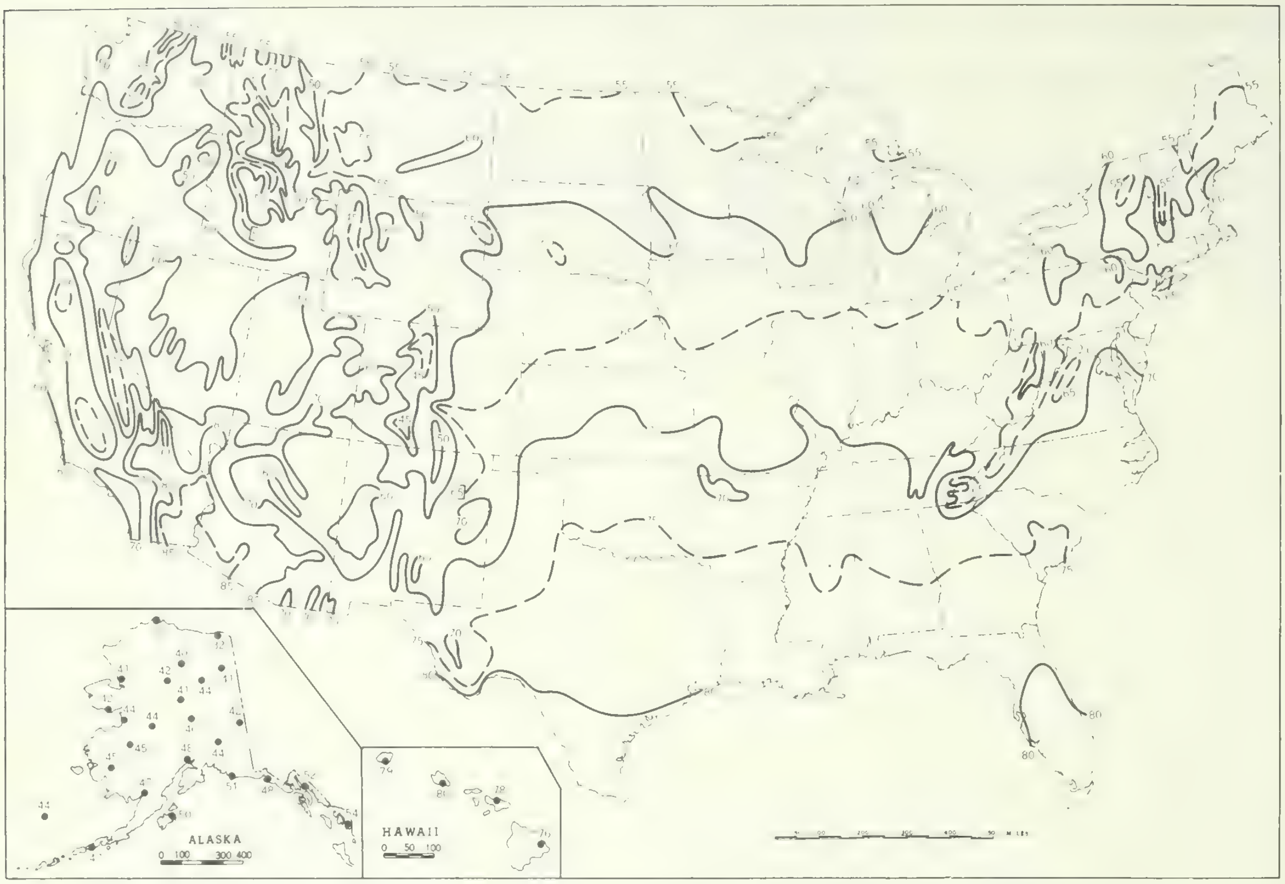
()	Clouds Present
*	Values corresponding to true solar noon
BD	Blowing Dust
BN	Blowing Sand
D	Dust
DI	Intense Dust
DM	Moderate Dust
DS	Slight Dust
F	Fog
GF	Ground Fog
H	Haze
HI	Intense Haze
HM	Moderate Haze
HS	Slight Haze
I	Intense Haze-indeterminable
K	Smoke
KI	Intense Smoke
KM	Moderate Smoke
KS	Slight Smoke
M	Moderate Haze-indeterminable
N	Sand
S	Slight Haze-indeterminable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), September.



B. Temperature Departure from 30 - Year Mean (F 1941-70), September 1977

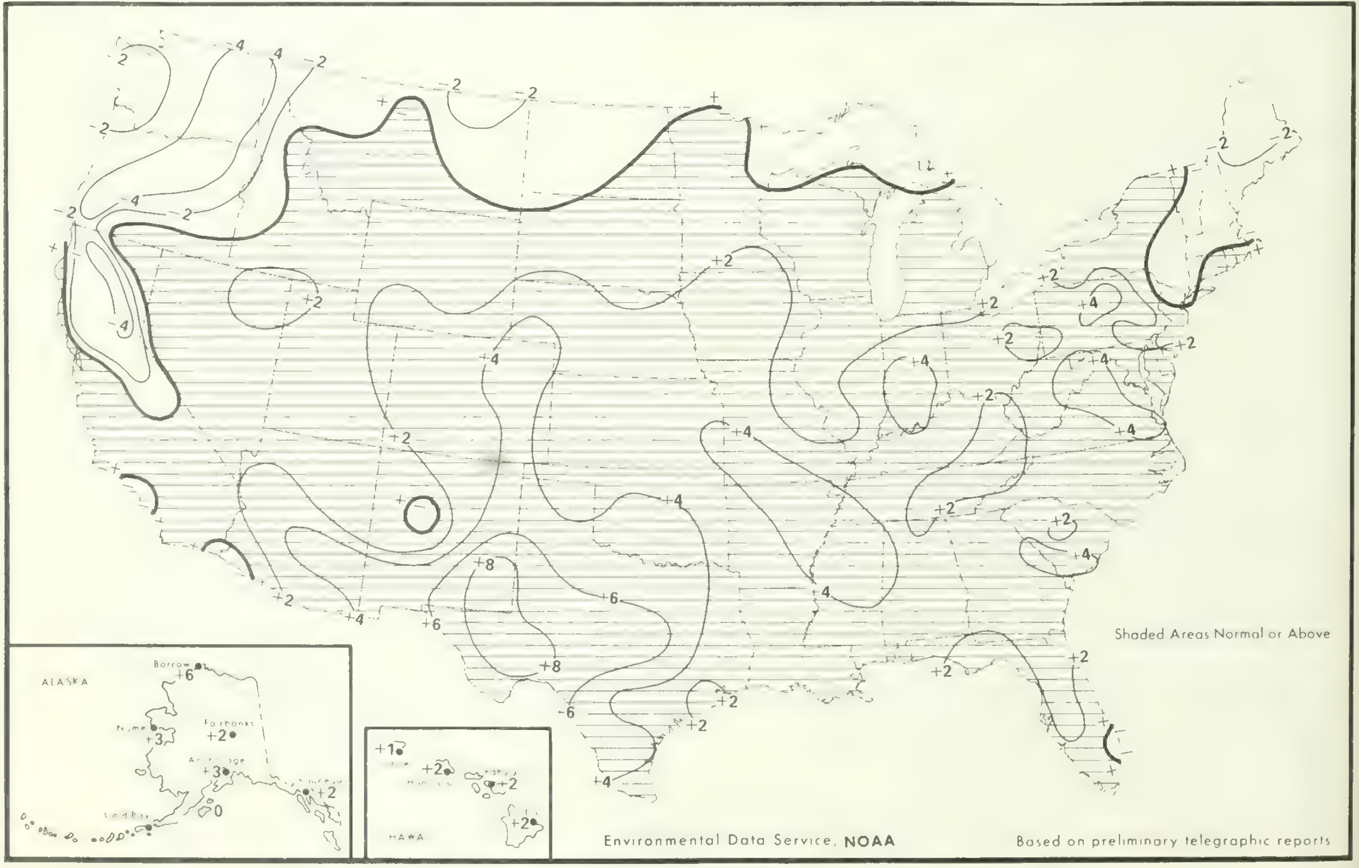
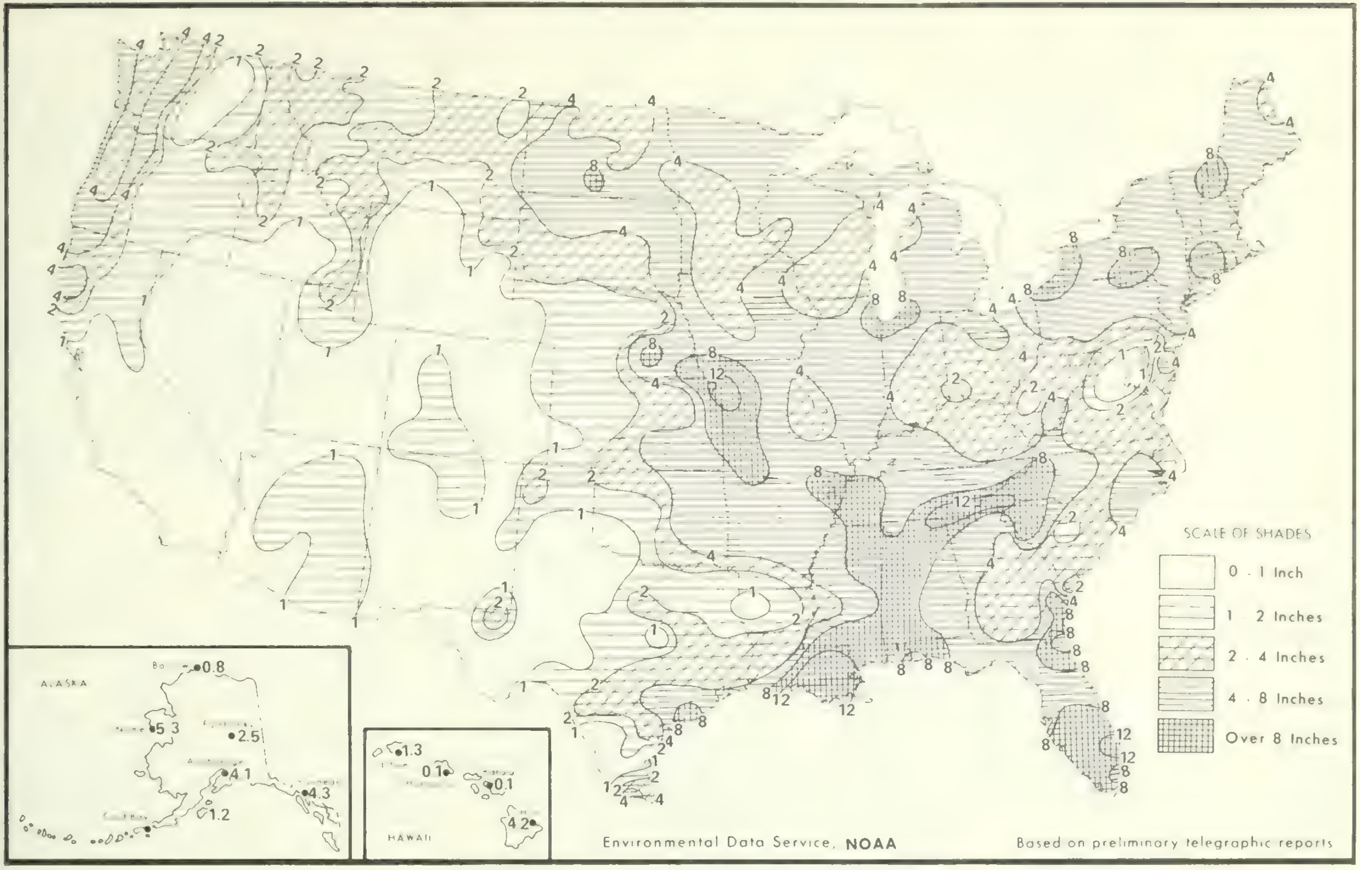

Shaded Areas Normal or Above
-2
-4
+2
+4
+6
+8
-6
ALASKA
Barrow +6
Nome +3
Fairbanks +2
Anchorage +3
Juneau +2
Cold Bay 0
HAWAII
+1
+2
Environmental Data Service, NOAA
Based on preliminary telegraphic reports

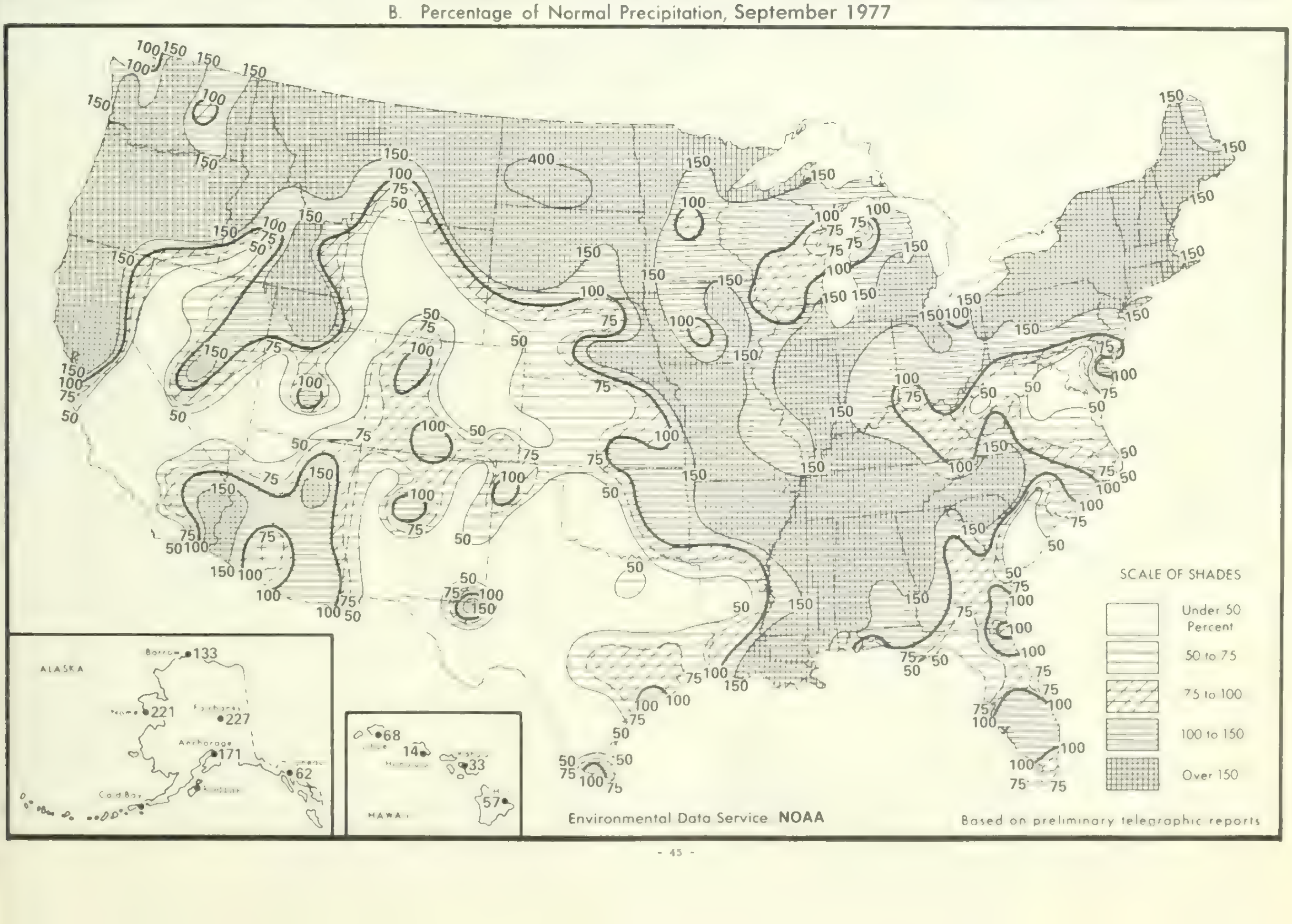
Chart II. A. Total Precipitation (Inches), September 1977



Environmental Data Service, NOAA

Based on preliminary telegraphic reports

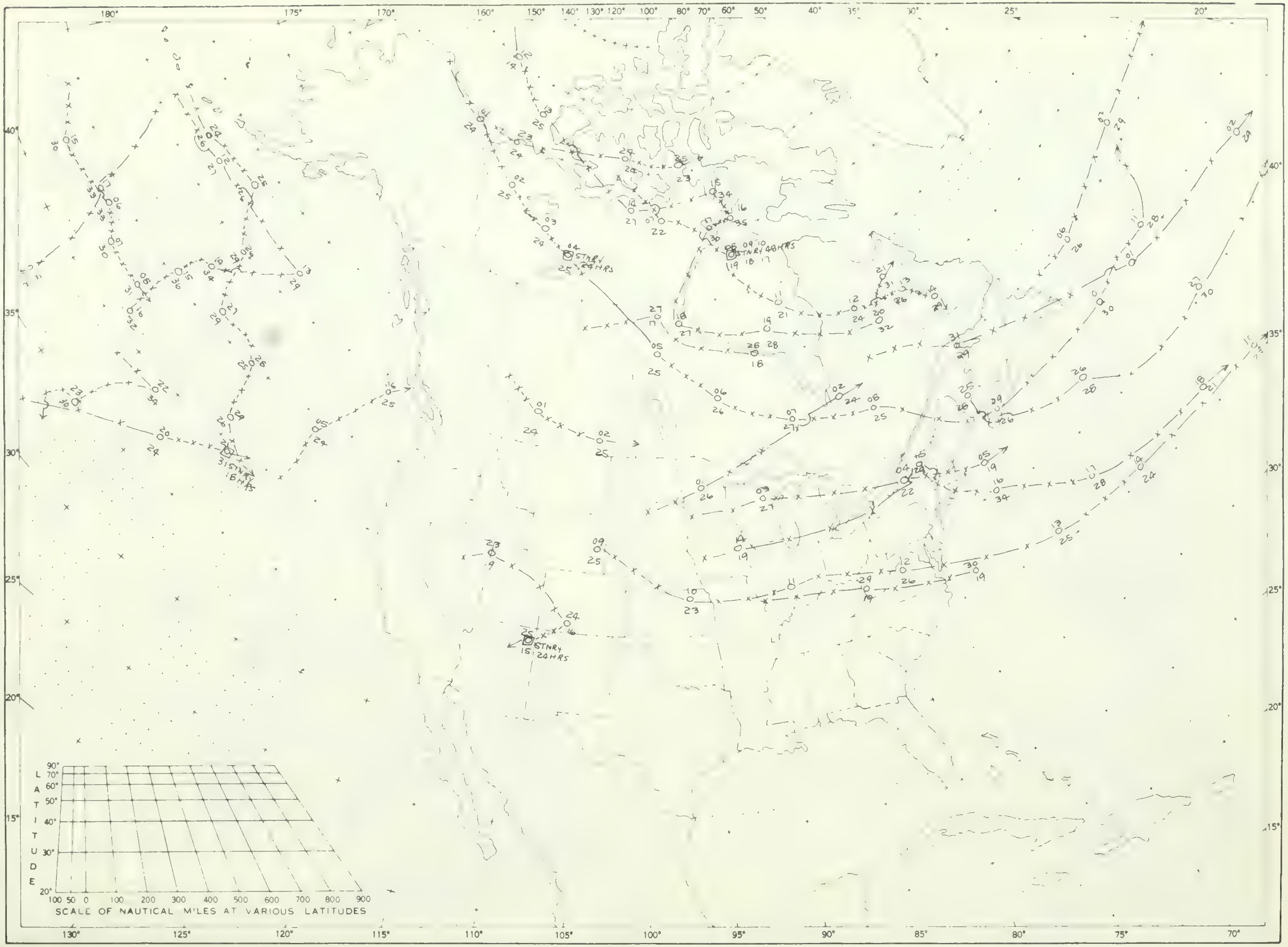
B. Percentage of Normal Precipitation, September 1977



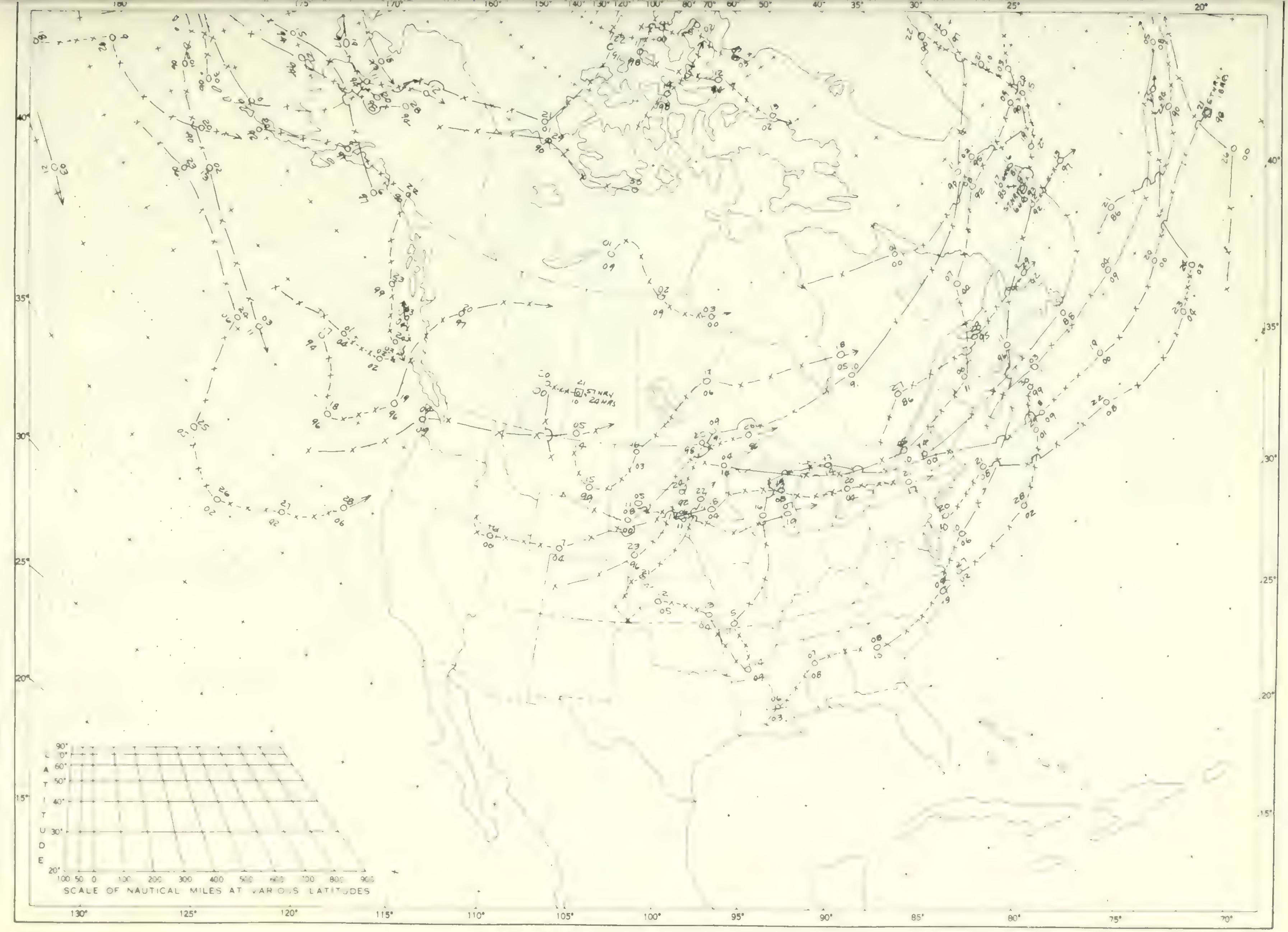
Environmental Data Service NOAA

Based on preliminary telegraphic reports

Chart III. Tracks of Centers of Anticyclones at Sea Level, September 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track
indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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OCTOBER 1977 VOLUME 28 NUMBER 10

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

OCTOBER 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: Rainfall during October was well above normal from southern Mississippi through New England. Southern Georgia and Florida missed these rains which were much less than the normal amounts. Parts of the Midwest and northern Plains also experienced excessive rain which hampered harvesting. The southern parts of Arizona, New Mexico, and Texas had above normal precipitation, but the winter wheat areas of those States and Colorado had too little. Temperatures were generally moderate over the Nation; it was above normal west of the Rockies and below east of them.

October began with a cold front moving off the East Coast causing heavy rain in parts of the Appalachians and New England. The very dry area in the middle eastern States was skirted by the storms and had only light rain.

After the front passed a large high pressure system dominated the area east of the Rockies and allowed a few days of drying in the Corn Belt so the harvest could progress. The respite was short-lived; rain returned to the central United States by the middle of the first week and spread eastward. Some rain fell in this first week over nearly all the Country except the dry parts of the central western areas. Two cool air masses entered the country during the first week and kept the temperature cooler than normal in most of the Nation.

During the second week a trough of low pressure in the upper air moved from the Rocky Mountains to the East Coast. Light to moderate amounts of rain accompanied the trough from the central United States eastward. Heavy thunderstorms triggered rains, some more than two inches, in southern Texas and the Mississippi Delta. Clearing dry weather followed the trough eastward, but a surface low formed off Cape Hatteras at the end of the week causing welcome moderate rain in the dry areas of the mid-eastern States. Temperatures continued cooler than normal over much of the country, but the West experienced a warm spell when some parts of northern California rose 10 to 12° above normal.

The surface low off the East Coast moved northward during the week of the 17th-23d and most of the Southeast remained rainless, but New England recorded moderate to heavy amounts. Late in the week a wave formed on a front in southern Missouri producing heavy rain from south central Texas into Iowa. Some moderate rain fell along the extreme northwestern coast, but most of the area from the western Plains westward had little or no precipitation. The warm air in the West moved eastward and many of the areas west of the Mississippi River were warmer than normal. East of the river readings were 6 to 7° below normal.

The last week was a rainy one as the most significant amounts fell from southern Mississippi northeastward to Virginia and Maryland. Some local flooding occurred in central Mississippi and Alabama, while rain was generally heavy in the rest of the area. In contrast, the western Plains remained dry as did southern California and Nevada. Substantial and welcome rain fell in the Pacific Northwest and reached as far south as central California. An unusual circumstance--the entire United States was warmer than normal. Parts of the Rockies were 9 to 10° above normal and much of the East was 6 to 7° above.

HURRICANE EVELYN

October 13 - 15, 1977

National Hurricane Center, NOAA
Miami, Florida

Hurricane Evelyn had its origin as a tropical wave which crossed the African coast on October 3. The main impulse associated with the wave moved westward at the rather low latitude of about 6° north. The Bermuda-Azores high was weaker than normal over the western half of the north Atlantic which allowed the disturbance to turn northwestward toward the subtropics.

During this period, October 9-12, the sprawling, disorganized cloud pattern associated with the disturbance gradually consolidated and became separated from the inter-tropical convergence zone (ITCZ). On the 12th, the low-level system interacted with an upper-level cold low. This was evidenced by increases in the degree and organization of the associated convection. As the upper-level low passed to the south and weakened, it was replaced by a weak anticyclone over the disturbance.

The upper atmospheric circulation pattern became more favorable for development and satellite pictures indicated that a surface depression probably formed on the 13th, about 400 miles south of Bermuda. As the depression headed toward Bermuda, ships located in the zone of strong pressure gradient to the east of the circulation center encountered gale force winds early on the 14th. The 'best track' indicates that Evelyn became a tropical storm at this time. However, up to this point there were no data from the vicinity of the center to confirm the tropical character of the storm. Such confirmation was provided when the center passed over Bermuda early on the 14th. At 0920 GMT, the Naval Air Station on Bermuda recorded a pressure minimum of 1003.8 mb, and a shift of surface winds from east to west. At 1000 GMT, the station's radar located the center at a bearing and range of 50° at 10 n mi. Strong winds were confined to the eastern semicircle, over the open water. The strongest surface winds measured at Bermuda were only 15 kt with gusts to 26 kt.

After the center passed over Bermuda, Evelyn accelerated north northeastward in the strong flow aloft to the east of an intensifying 500 mb low over the middle Atlantic states. Evelyn strengthened as it attained a forward speed of 35 mph on the 14th. An Air Force reconnaissance flight measured a central pressure of 994 mb and low-level winds of 72 kt at 0000 GMT, October 15. Based on these data, Evelyn was upgraded to a hurricane.

Meanwhile, an intense non-tropical storm just off the east coast of the United States was paralleling Evelyn's track. Gale and Storm Warnings were posted along portions of the New England coast swept by this storm. As Evelyn raced toward the Canadian Maritime Provinces, it was apparent that it would encounter the frontal zone associated with the east coast storm, and it was questionable how long the hurricane could maintain tropical characterestics. An Air Force reconnaissance flight reported that the storm had an extratropical appearance as the center moved onshore over Cape Breton Island, Nova Scotia, during the morning of the 15th. Satellite pictures showed that the hurricane's cloud mass was merging with that of the front. However, a ship (call sign 5LTA) encountered easterly winds of 68 kt and a pressure of 1001 mb just off the southwest tip of Newfoundland at 1800 GMT, October 15. Therefore, Evelyn is designated a hurricane up to this point on the 'best track'.

The storm weakened rapidly as it moved inland over extreme western Newfoundland and merged with the front. Gusts of gale force were reported from Stephenville and St. John's probably due to the combined effects of the remnants of Evelyn and the front.

No reports of damage or casualties due to Evelyn have been received. The lowest pressure was 994 mb reported by reconnaissance at 2350 GMT, October 14. The highest sustained surface winds were 68 kt reported by the ship, 5LTA, at 1800 GMT, October 15.

HURRICANE EVELYN

October 13 - 15, 1977

Official Track

DATE	TIME (GMT)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
10/13	1800	26.9	62.9	1010	30	Tropical Depression
10/14	0000	29.0	64.0	1008	30	Tropical Depression
	0600	30.9	64.9	1005	35	Tropical Storm
	1200	33.0	64.9	1002	40	
	1800	35.9	64.4	999	50	
10/15	0000	39.2	63.3	994	65	Hurricane
	0600	42.4	61.5	996	68	
	1200	45.5	60.1	998	68	
	1800	47.4	59.2	999	68	
10/16	0000	49.1	58.3	1000	45	Extratropical

TROPICAL STORM FRIEDA

October 16 - 18, 1977

National Hurricane Center, NOAA
Miami, Florida

Frieda was a short-lived tropical storm in the northwest Caribbean. The origins of this system can be traced to a tropical wave which passed off the African coast on 4 October. It travelled westward for the next ten days without incident. Then a large convective cloud mass associated with this wave moved from the central Caribbean on the 14th to the northwest Caribbean on the 15th and 16th.

Meanwhile, a cold front had moved across the Gulf of Mexico on the 12th and its remnants, a baroclinic zone of frontal cloudiness, became located in the northwest Caribbean. The cloudiness from the wave merged with the front on the 16th, and a second cold front moved into the same area on the 17th, apparently reinforcing the surface horizontal wind shear and temperature gradient in this region.

Late on the 16th, a reconnaissance aircraft located a surface circulation center just east of Swan Island, and this was identified as a tropical depression. The center remained very well-defined until midday on the 18th. It moved steadily and slowly westward from its inception on the 16th until late on the 18th, when it crossed the coast of Belize in Central America just north of Belize City. For most of Frieda's duration, the associated circulation pattern was confined to the lower troposphere as evidenced by the lack of mid and upper cloudiness near the center. Therefore, the storm's motion was controlled by the easterly trades which resulted in a steady westward course.

On the 17th, a reconnaissance aircraft reported a band of strong westerly winds between the center and the north coast of Honduras. Winds of 60 kt were measured at a flight level of 1500 feet, 50 n mi south of the center. Surface winds of 50 kt were estimated at this same position.

It was the receipt of the above wind information that resulted in the upgrading of this depression to a tropical storm. Other factors contributing to this decision were: Satellite pictures indicated a very well-defined low-level center; and at times, there was considerable rainfall associated with this system ...Swan Island reported 4.46 inches during a 30 hour period ending at 1200 GMT on the 17th. Grand Cayman had 5.42 inches during a 36 hour period ending at 1800 GMT on the 16th.

By the time of landfall, late on the 18th, maximum winds had decreased to well below gale force. Belize City, just south of the point of landfall, had only light rain and light westerly winds. There have been no reports of damage or casualties.

Preliminary Best Track

DATE	TIME (GMT)	LATITUDE (NORTH)	LONGITUDE (WEST)	PRESSURE (MB)	WIND (KT)	STAGE
10/16	1800	17.3	83.2	1011	25	Tropical Depression
10/17	0000	17.3	83.4	1010	30	Tropical Depression
	0600	17.3	83.6	1009	30	
	1200	17.2	83.9	1008	40	Tropical Storm
	1800	17.2	84.4	1007	45	
10/18	0000	17.3	85.0	1006	50	Tropical Storm
	0600	17.4	85.8	1005	40	
	1200	17.5	86.6	1006	30	Tropical Depression
	1800	17.6	87.4	1008	25	
10/19	0000	17.6	88.3	1010	20	Tropical Depression

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

OCTOBER 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Whatley	95	1	3 Stations	27	17	Gorgas	10.57	Geneva 2	1.31
Alaska	2 Stations	61	6+	Kobuk	-26	31	Mac Leod Harbor	55.99	[illegible]	.17
Arizona	Litchfield Park	104	3	2 Stations	18	31+	Nogales	8.30	Cameron	.01
Arkansas	Crossett 2 SSE	95	2	9 Stations	28	18	Clarksville	4.61	[illegible]	T
California	Palm Springs	104	15+	Bridgeport	8	30	Fort Dick	7.10	51 Stations	.00
Colorado	John Martin Dam	93	2	Berthoud Pass	- 2	11	Berthoud Pass	2.89	12 Stations	00
Connecticut	Mansfield Hollow Lake	79	28	2 Stations	21	31+	West Thompson Dam	9 22	Bridgeport WSO AP	3 94
Delaware	Lewes 1 SW	86	2	2 Stations	31	18	Dover	4.79	Milford 2 WSW	2.91
Florida	Pompano Beach	96	3	Smith Creek	30	18	Melbourne	7 00	Naples 2 NE	05
Georgia	Nahunta	94	2	Blairsville Exp Station	26	18+	Gainesville	10.74	[illegible]	26
Hawaii	2 Stations	93	16+	Mauna Loa Slope Obs, HI	31	21	Piihonua 89, Hawaii	26.20	3 Stations	00
Idaho	Grand View 2 W	86	25	Grouse	6	31	Pierce	6.96	5 Stations	00
Illinois	Harrisburg	87	1	Mount Carroll	18	13	Clinton 1 SSW	7.79	Chicago O'Hare WSO AP	1.36
Indiana	Evansville	86	1	Angola	18	17	Crawfordsville Power Plant	6.82	Fort Wayne Disposal Plant	.79
Iowa	Fort Madison	84	22	2 Stations	20	16	Bedford	10.98	Dubuque L and D 11	2.12
Kansas	6 Stations	92	27	Russell Springs	19	12	Leavenworth	9.67	5 Stations	.00
Kentucky	2 Stations	87	1	Covington WSO AP	23	17	Hazard Water Works	9.38	Hickman 1 E	1.62
Louisiana	2 Stations	97	2	Ashland 2 S	30	13	Oakdale	12.93	Hosston	23
Maine	2 Stations	75	2	Squa Pan Dam	17	31	Sanford 2 NNW	9.61	Fort Fairfield 5 NE	4 32
Maryland	Pocomoke City	87	2	Rockville 3 NE	25	18	Clarksville 3 NNE	6.73	Savage River Dam	2.94
Massachusetts	Chester 2	81	27	Chester 2	16	31	Pembroke	8.45	Boston WSO AP	4.63
Michigan	3 Stations	75	21	Lupton 1 S	14	17	Marquette FAA AP	4.13	Howell Wastewater Plant	.75
Minnesota	Browns Valley	79	14	Thorhult 1 S	13	22	Worthington 2 NNE	6.28	International Falls WSO AP	.80
Mississippi	Hernando	96	1	Houston 2 NE	26	14	Union	8.13	Ofahoma	1.52
Missouri	3 Stations	90	27+	Berryman 6 NW	19	13	Plattsburg Waterworks	9.18	Seligman	.92
Montana	3 Stations	84	18+	Neihart 8 NNW	4	10	2 Stations	3.31	Cleveland 5 ENE	00
Nebraska	2 Stations	89	26+	Harrisburg 10 NW	13	12	Mead Agronomy Lab	5.30	Oshkosh	.00
Nevada	Sunrise Manr Las Vegas	98	5	3 Stations	11	30+	Spring Valley State Park	.69	32 Stations	.00
New Hampshire	3 Stations	75	27	Mount Washington	11	23	Pinkham Notch	10.45	Colebrook 2 E	3 89
New Jersey	2 Stations	82	2	Newton St Pauls Abbey	21	25	Long Valley	5.77	Millville FAA AP	2 98
New Mexico	2 Stations	99	1	Eagle Nest	16	12	Yeso 2 S	3 24	6 Stations	.00
New York	Catskill 1 N	76	27	3 Stations	17	31	Slide Mountain	11.29	Olean	1.73
North Carolina	3 Stations	91	3+	Grandfather Mountain	16	17	Lake Toxaway 2 SW	9 88	Marshall	2 75
North Dakota	New England	82	19	2 Stations	17	22	Hankinson R R Station	3.42	Mohall	32
Ohio	5 Stations	80	2+	Carpenter 1 S	16	17	Hamilton-Fairfield	7.32	Cleveland-Lutheran M C	95
Oklahoma	2 Stations	105	1	3 Stations	24	12	Grand River Dam	4 78	2 Stations	00
Oregon	John Day	85	19+	2 Stations	15	24	Valsetz	8.60	Westfall 4 NNW	00
Pennsylvania	2 Stations	79	27	Clermont 4 NW	14	31	Gouldsboro	7.95	Greenville	1.94
Puerto Rico	Magueyes Island	96	9	Adjuntas Substation	57	18	Yabucoa 1 NNE	19.26	Santa Isabel 2 NE	1.90
Rhode Island	3 Stations	75	27	Kingston	23	24	North Foster 1 E	8.68	Block Island WSO AP	4.85
South Carolina	Hilton Head	93	2	2 Stations	28	18+	Hogback Mountain	8.32	Sullivans Island	1.16
South Dakota	2 Stations	85	19+	Newell	13	11	Spearfish 1 W	4.08	Ardmore 2 N	.22
Tennessee	Woodbury 1 WNW	89	1	Waynesboro	23	13	Dickson	7.88	Bolton	96
Texas	Aspermont 1 E	108	1	Cope Ranch	25	13	Sinton	6.20	4 Stations	.00
Utah	2 Stations	90	16+	2 Stations	12	11	Silver Lake Brighton	2.39	Garrison	.00
Vermont	Rochester	74	28	Ball Mountain Lake	16	24	Mount Mansfield	11.81	Gilman	3.97
Virginia	3 Stations	90	2	Mt Lake Biological Station	20	17	Hopewell	9.53	[illegible]	2.77
Virgin Islands	Alex Hamilton Field FAA	91	5	3 Stations	66	18	Annaly	20.91	Wintberg	6.06
Washington	Whitman Mission	82	25	Chewelah 4 SSW	17	27	Spruce	12.49	Quincy 1 S	.05
West Virginia	3 Stations	80	1	Snowshoe	17	17	Rowlesburg 1	7.34	New Cumberland	2.05
Wisconsin	7 Stations	73	27+	Jump River 5 E	17	16	Cashton	4.35	Manitowoc	1.11
Wyoming	Glendo 4 SW	85	16	South Pass City	- 6	11	Oshoto 15 NW	2.78	2 Stations	T

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	996.6	1019.2	21.1	9.9	15.5	-1.9	30.6	1	2.2	17+	0	0	10.0	74	191	125	95	6	3	0	0	0.6	36	9.4	NW	9+	12	7	12	5.1	63
HUNTSVILLE	190	995.9	1019.0	20.6	8.6	14.6	-2.2	29.4	1	1.1	17+	0	0	8.9	72	135	70	68	8	2	0	0	0.5	3	11.2	32	15+	13	5	13	5.1	
MOBILE	64	1010.5	1018.4	24.4	12.4	18.4	-2.1	31.7	1	4.4	14	0	0	12.2	72	116	51	64	6	2	0	0	1.1	2	10.3	35	2	15	7	9	4.4	
MONTGOMERY	59	1011.5	1018.8	24.3	11.2	17.8	-1.0	32.8	1	3.3	17	1	0	10.0	64	66	9	39	7	1	0	0	0.6	35	10.3	N	2	13	9	9	4.4	67
ALASKA												B																				
ANCHORAGE	35	990.9	995.6	6.6	0.3	3.5	1.9	13.3	12	-13.3	19	0	15	-0.6	73	49	12	13	14	0	335	127	1.3	1	9.4	36	14	3	0	28	9.0	40
ANNETTE	34			10.4	5.9	8.2	-0.1	13.3	15+	0.6	19	0	0			389	-65	90	26		0	0			17.9	13	27	2	4	25	8.6	
BARROW	9	1008.1	1008.6	-5.2	-8.0	-6.6	2.7	5.0	2	-19.4	31	0	28	-8.3	87	12	-2	2	20	0	178	127	4.8	7	16.5	8	11	0	0	31	9.8	
BARTER ISLAND	12			-2.3	-7.7	-4.9	3.7	7.2	2	-16.1	20	0	31			25	4	6	14		396	279			17.4	8	21	3	3	25	8.8	
BETHEL	38	993.6	999.3	1.4	-4.8	-1.7	-0.7	11.1	1	-13.9	31	0	27	-5.6	77	37	4	13	12	0	122	51	2.0	36	14.8	5	25	6	7	18	7.1	
BETTLES	196	979.0	1003.7	-2.2	-8.8	-5.5	1.2	7.2	10+	-24.4	30	0	31	-9.4	75	20	-11	6	14	0	320	254	2.4	1								
BIG DELTA	386			0.7	-5.4	-2.3	1.4	10.6	9	-24.4	19	0	28			17	2	7	7		399	330										
COLD BAY	29	995.6	999.2	6.7	0.9	3.8	-0.4	14.4	8	-4.4	20	0	13	0.6	78	130	21	25	25	0	239	102	3.5	32	23.2	32	26	0	7	24	8.8	
FAIRBANKS	133	983.1	1000.3	0.4	-7.5	-3.6	0.2	11.7	10	-22.8	19	0	30	-7.8	75	28	10	9	12	0	439	254	1.4	2	10.3	3	14	3	7	21	7.8	
GULKANA	479			4.2	-5.2	-0.5	2.4	11.1	10	-18.3	19	0	27			12	-10	7	6		64	25										
HOMER	19	990.9		6.6	0.7	3.7		11.1	3	-6.7	31+	0	14			89	3	15	19	0	81	102	0.9	4	11.2	2	26+	1	1	29	9.1	
JUNEAU	4	1004.1	1004.8	8.6	2.9	5.8	0.3	12.2	5	-2.2	6+	0	7	3.9	88	181	-18	28	22	0	T	0	4.0	12	15.6	20	22	3	3	25	8.8	33
KING SALMON	15	993.2	995.2	3.7	-4.1	-0.2	-1.1	11.7	2+	-15.0	25	0	24	-4.4	72	84	33	45	13	0	109	76	1.8	35	11.6	5	26+	2	8	21	8.0	
KODIAK	4	988.8	993.2	7.3	0.9	4.1	-0.7	12.2	4	-5.0	31	0	15	0.6	78	369	209	55	18	0	T	0	2.5	33	15.6	36	21+	6	5	20	7.4	
KOTZEBUE	3	1001.4	1001.7	-2.1	-6.2	-4.1	0.6	7.8	10	-18.9	31	0	24	-7.2	79	29	13	18	8	0	13	T	3.8	6	15.6	9	9	10	4	17	6.3	
MC GRATH	105	986.1	998.9	1.1	-5.6	-2.3	1.4	13.3	9	-16.7	30	0	27	-7.2	73	18	-13	8	9	0	112	51	1.0	36	8.0	2	15	1	8	22	8.4	
NOME	4	999.0	999.7	0.3	-5.9	-2.8	-0.8	7.2	11+	-18.9	31	0	25	-6.7	77	13	-23	4	8	0	51	25	1.5	6	13.0	12	9+	11	5	15	6.0	41
ST. PAUL ISLAND	7			5.4	0.1	2.8	-0.4	10.0	1	-6.1	20+	0	15			24	-56	8	16	0	41	25			20.6	34	26+	1	11	19	7.9	
TALKEETNA	105	983.1		5.4	-3.3	1.1	1.0	13.9	10	-17.8	19	0	25			39	-25	15	9	0	328	178	1.1	2	8.0	3	10					
UNALAKLEET	5			-0.1	-8.7	-4.3		9.4	2	-23.3	31	0	29			21		7	14		58	51			12.5	10	9	8	2	21	7.0	
VALDEZ	11	996.3	997.4	7.2	2.6	4.9	1.9	12.8	5	-2.2	19	0	5	2.8	86	148	-24	23	25	0	15	T	0.5	5	9.4	10	21	1	1	29	9.5	
YAKUTAT	9	999.0	1000.2	8.7	3.1	5.9	1.1	13.3	5	-3.3	19	0	4	3.9	88	630	134	85	26	2	61	51	3.2	10	17.4	13	14	1	1	29	9.4	
ARIZONA																																
FLAGSTAFF	2135	790.4	1017.9	20.3	0.5	10.4	2.1	25.6	4	-3.9	21	0	20	1.7	63	26	-8	25	3	2	0	0	0.3	21	12.1	SW	31	17	10	4	3.3	
PHOENIX	339	974.3	1012.6	32.8	19.1	25.9	3.6	38.9	3	13.3	31	19	0	8.9	38	15	4	9	3	2	0	0	1.6	12	13.9Y	W	5	23	4	4	2.4	87
TUCSON	788	926.2	1012.7	29.2	16.7	22.9	1.8	37.8	2	10.6	31	7	0	8.9	46	60	43	44	5	3	0	0	1.7	14	13.0	SE	12	24	3	4	2.4	86
WINSLOW	1492	854.0	1017.4	23.6	6.1	14.9	0.8	30.0	3	0.6	25	0	0	3.9	55	21	4	16	2	1	0	0	1.4	20	11.2	23	31	19	9	3	2.8	
YUMA	59	1004.4	1011.7	33.3	18.4	25.9	1.5	37.2	3	11.1	31	22	0	10.0	42	6	-1	6	1	0	0	0	0.2	22	9.4	NW	19	25	3	3	1.8	95
ARKANSAS																																
FORT SMITH	136	1002.0	1018.7	23.8	9.0	16.4	-0.9	31.7	1	0.0	13	0	1	9.4	72	22	-66	9	7	2	0	0	0.6	7	10.7	SW	1	13	6	12	5.3	54
LITTLE ROCK	78	1009.1	1018.8	23.3	10.7	17.0	0.1	32.2	1	2.8	17+	1	0			16	-60	10	4	1	0	0	0.1	23	8.9	S	31	13	9	9	4.9	87
CALIFORNIA																																
BAKERSFIELD	145	998.0	1015.5	28.6	14.9	21.8	2.4	33.9	12	8.9	30+	7	0	9.4	47	T	-7	T	0	1	0	0	0.5	35	6.7	32	27+	18	8	5	3.1	
BISHOP	1252	874.7		26.3	4.1	15.2	1.2	30.6	15	-1.7	30	0	3			T	-7	T	0		0	0			23.2Y		6	24	4	3	2.3	
BLUE CANYON	1609	840.2	1015.1	18.3	7.8	13.1	0.8	24.4	17	0.0	29	0	1	-2.2	42	11	-94	8	3		23	T	1.0	18	7.6	20	5					
EUREKA U	13			15.3	8.9	12.1	-0.3	21.7	24	5.6	21	0	0			71	-11	51	8		0	0			12.5	S	28	3	10	18	7.5	33
FRESNO	100	1004.1	1015.7	28.1	10.6	19.3	1.4	33.3	11	5.0	30	7	0	7.8	52	T	-10	T	1	1	0	0	0.7	28	7.6	30	26	20	7	4	3.0	92
LONG BEACH	8	1013.5	1014.8	26.7	16.0	21.3	1.9	32.8	7+	10.0	31	2	0	15.0	73	T	-5	T	0	0	0	0	0.9	24	7.2	27	7	7	19	5	5.0	
LOS ANGELES	30	1010.8	1014.6	22.7	15.3	19.0	0.6	28.3	7	11.1	31	0	0	15.0	83	T	-6	T	0	0	0	0	2.0	25	10.3Y	W	19	6	21	4	5.3	
LOS ANGELES U	82			25.8	15.3	20.6	0.3	31.1	8	11.1	31	0	0			0	-7	0	0		0	0			6.3	SW	29	13	16	2	3.9	95
MT SHASTA R	1077	895.0	1019.5	17.9	1.9	9.9	-0.8	26.7	17	-1.7	7	0	6			27	-37	17	5		0	0			5.4	31	31+					
OAKLAND	2	1016.9	1017.0	21.1	12.7	16.9	0.7	28.9	13	8.9	31	0	0	11.7	76	7	-20	7	2	0	0	0	1.8	28	9.8	27	26	12	13	6	4.5	
RED BLUFF	104	1003.4	1016.0	26.6	11.3	19.0	0.7	33.3	11	7.2	22	4	0	8.3	57	3	-26	2	4	0	0	0	1.4	35	9.8	S	29	13	10	8	4.6	85
SACRAMENTO	5	1014.9	1015.7	25.4	10.0	17.7	0.3	30.6	15+	6.1	19	0	0	8.9	65	3	-22	2	4	2	0	0	1.0	21	9.4	S	20+	16	12	3	3.1	79
SANDBERG R	1377	863.9	1015.5	22.1	11.5	16.8	1.9	27.8	15	3.3	30+	0	0	-1.1	37	T	-8	T	1		0	0	1.2	36	17.0	35	21					
SAN DIEGO	4	1013.5	1014.7	23.4	17.6	20.5	1.6	28.9	7	14.4	31	0	0	16.7	80	13	4	10	5	0	0	0	1.6	30	9.4	NW	7	10	14	7	4.9	63
SAN FRANCISCO	2	1016.3	1016.8	20.3	11.3	15.8	-0.3	27.8	12	8.3	22	0	0	7.8	65	4	-21	3	3	0	0	0	3.8	29	13.0	29	26	14	11	6	4.3	
SAN FRANCISCO U	16			19.4	12.3	15.9	-0.4	26.7	13	11.1	31+	0	0			4	-23	4	3													
SANTA MARIA	72			22.7	8.8	15.7	-0.1	31.1	7	4.4	28	0	0			T	-13	T	0		0	0						19	9	3	3.8	
STOCKTON	7	1015.2	1016.2	27.3	11.0	19.2	1.7	32.8	15+	6.7	31	4	0	10.6	64	1	-18	1	1	1	0	0	1.9	31	9.4	28	26	21	5	5	3.2	
COLORADO																																
ALAMOSA	2297	774.8		18.8	-4.6	7.1	0.4	23.9	4+	-11.7	31+	0	26			2	-15	2	1		0	0						21	7	3	2.6	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	813.4	1017.7	18.7	2.9	10.8	0.6	27.2	3	-5.6	11	0	5	-5.0	39	5	-19	4	3	1	23	T	1.3	4	14.8	1	10+	18	8	5	3.4	
DENVER	1610	838.1	1016.0	20.8	2.8	11.8	0.7	28.3	26+	-3.9	11	0	5	-4.4	39	12	-17	10	4	0	84	76	0.5	17	16.5	NW	7	16	6	9	4.0	78
GRAND JUNCTION	1476	854.7	1017.0	22.4	6.6	14.6	1.8	28.9	3	0.6	31	0	0	-2.2	36	13	-11	11	4	2	T	0	0.8	11	14.3	NW	6	20	7	4	3.3	81
PUEBLO	1428	857.1	1016.4	22.3	1.9	12.1	-0.4	30.0	16	-6.7	12	0	12	-2.2	44	T	-24	T	0	1	T	0	0.6	7	19.2	NW	7	18	7	6	3.3	89
CONNECTICUT																																
BRIDGEPORT	2	1015.9	1016.4	18.0	9.7	13.8	0.1	22.8	1	3.9	24	0	0	7.8	69	100	29	33	12	3	0	0	1.6	30	17.4	29	19	8	8	15	6.3	
HARTFORD	52	1009.5	1016.0	17.0	5.2	11.1	-0.3	25.6	27	-3.3	24	0	4	5.6	71	138	61	50	13	3	0	0	0.9	30	13.0	S	9	7	9	15	6.4	52
DELAWARE																																
WILMINGTON	23	1014.2	1017.2	17.1	6.7	11.9	-2.1	24.4	2	1.1	18	0	0	6.1	69	91	25	38	11	1	0	0	1.6	31	13.4	29	17	4	16	11	6.4	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1006.1	1017.9	18.6	5.7	12.2	-1.1	27.8	2	-0.6	18	0	1	5.6	68	106	37	47	12	0	T	T	1.3	31	13.9	30	17	7	11	13	6.3	
WASHINGTON NATIONAL	3	1015.2	1017.8	19.6	10.4	15.0	-0.4	27.8	2	2.8	18	0	0	6.7	59	136	68	50	11	0	0	0	1.4	32	17.0	NW	17	7	12	12	6.2	51
FLORIDA																																
APALACHICOLA U	6	1017.3	1017.9	24.8	13.5	19.2	-2.4	31.1	2+	3.9	15	0	0	13.9	75	25	-48	12	5	0	0	0	1.3	5	9.4	N	12	13	6	12	5.0	78
DAYTONA BEACH	9	1015.6	1017.0	26.4	16.6	21.6	-1.4	32.8	2	7.2	18	1	0	15.0	70	37	-103	32	4	1	0	0	1.2	2	9.8	34	3	10	6	15	5.8	
FORT MYERS	5	1015.9	1016.3	28.3	18.4	23.3	-1.3	32.2	2+	10.0	18	2	0	17.2	73	11	-100	8	4	1	0	0	1.7	2	11.2	15	10	13	13	5	4.5	
JACKSONVILLE	8	1016.9	1017.8	25.3	12.6	18.9	-2.4	33.9	2	2.2	18	2	0	13.9	77	43	-73	23	5	0	0	0	1.0	1	9.8	W	26	9	11	11	5.6	58
KEY WEST	1	1014.9	1015.4	28.4	23.1	25.7	-0.7	31.7	3+	18.9	18	0	0	19.4	70	60	-81	55	3	2	0	0	3.0	5	9.4	36	13	10	16	5	5.0	86
LAKELAND J	65			27.8	17.0	22.4	-1.1	33.9	2+	8.9	14	3	0			22	-51	9	7		0	0						11	11	9	5.2	52
MIAMI	2	1015.9	1016.2	28.3	21.1	24.7	-0.7	33.3	3	14.4	14	1	0	18.9	72	32	-176	16	7	0	0	0	1.8	2	9.4	4	31+	13	10	8	5.1	76
ORLANDO/MC COY AFB	29	1013.2	1016.8	28.6	16.8	22.7	-0.8	33.9	2	7.2	18	5	0	16.1	72	11	-92	4	7	1	0	0	1.3	1	9.8	27	16	10	10	11	5.4	
PENSACOLA	34	1014.2	1018.5	24.6	14.1	19.3	-1.8	32.2	2	5.6	14	1	0	13.3	72	61	-19	24	7	2	0	0	1.3	2	10.3	2	12	13	9	9	4.6	
TALLAHASSEE	17	1015.9	1018.2	25.6	10.0	17.8	-2.9	33.3	2	0.0	18	2	1	12.2	77	20	-54	14	4	1	0	0	1.1	2	9.4	36	3	13	6	12	4.8	
TAMPA	6	1016.6	1017.0	28.1	16.9	22.5	-1.2	32.8	1	8.3	18+	2	0	16.1	72	11	-54	9	3	1	0	0	1.5	3	9.4	36	13	10	10	11	5.6	50
WEST PALM BEACH	5	1015.2	1015.9	28.5	19.6	24.1	-1.1	32.8	3	12.2	17+	2	0	17.8	71	51	-171	25	9	0	0	0	2.0	4	10.7	7	24	13	10	8	4.5	
GEORGIA																																
ATHENS	244	988.5	1017.5	21.4	9.2	15.3	-1.7	28.9	1	2.8	17+	0	0	10.0	74	188	119	101	8	4	0	0	0.7	33	8.0	29	16	9	10	12	5.7	
ATLANTA	308	981.4	1018.1	21.0	9.6	15.3	-1.6	28.9	1	2.8	17	0	0	8.3	68	127	64	68	6	1	0	0	1.2	34	12.5	31	16	14	6	11	5.2	68
AUGUSTA	41	1012.5	1017.9	22.9	9.2	16.1	-1.8	30.6	2+	1.7	17	0	0	10.6	74	88	33	26	9	2	0	0	0.8	32	17.9	18	2	11	7	13	5.5	
COLUMBUS	117	1004.4	1018.4	23.7	10.4	17.1	-1.5	31.7	1	2.2	18	0	0	11.7	75	55	5	39	6	1	0	0	0.8	35	8.0	9	31	12	10	9	4.7	
MACON	108	1005.4	1018.4	23.8	9.8	16.8	-1.9	32.2	1	1.7	18	1	0	11.1	74	42	-16	27	5	1	0	0	1.1	34	11.2	SW	18	11	8	12	5.2	67
ROME	194			21.4	8.0	14.7	-1.4	30.6	1	-1.1	17	0	1			173	100	90	6		0	0										
SAVANNAH	14	1016.3	1017.9	24.1	11.6	17.8	-1.7	32.2	2	3.9	17	1	0	11.1	70	29	-42	22	5	1	0	0	1.0	34	11.6	W	16	10	7	14	5.7	68
HAWAII																																
HILO	8	1014.9	1016.2	29.1	20.8	24.9	1.1	32.2	11	18.3	31	1	0	20.6	81	262	-17	57	27	2	0	0	0.4	20	7.6	E	3	1	11	19	7.7	34
HONOLULU	2	1015.2	1015.6	31.2	23.3	27.3	1.2	32.2	22+	20.6	23	6	0	19.4	65	4	-35	3	4	0	0	0	4.5	6	12.5	E	19	7	17	7	5.8	75
KAHULUI	15	1012.9	1015.1	30.4	21.7	26.1	0.9	33.9	2	18.9	31+	5	0			11	-16	9	7	0	0	0	4.3	5	12.5	E	29+	11	11	9	5.5	67
LIHUE	31	1011.5	1016.8	29.2	23.3	26.3	1.1	30.0	24+	20.6	13	0	0	20.0	71	33	-65	8	15	0	0	0	4.7	6	13.9	NE	25	2	16	13	6.5	64
IDAHO																																
BOISE	865	918.1	1018.5	18.8	4.7	11.8	0.6	26.1	25	-0.6	10+	0	2	0.0	49	5	-15	5	3	0	T	0	0.5	12	13.4	NW	30	13	10	8	4.7	
LEWISTON	431			15.7	5.1	10.4	-0.6	21.1	15	0.6	10	0	0			14	-13	7	6		T	0			18.3Y		24					
POCATELLO	1358	865.2	1018.5	19.2	1.3	10.2	1.1	25.6	16	-4.4	11	0	18	-2.2	47	5	-14	4	2	1	8	0	2.5	22	13.9	SW	30	13	12	6	4.5	78
ILLINOIS																																
CAIRO J	96			20.2	9.4	14.8	-1.7	30.0	1	2.8	13	0	0			47	-21	21	9		0	0			11.6	SW	1					61
CHICAGO O HARE	201	993.2	1017.9	16.3	5.3	10.8	-1.3	23.3	21	-0.6	13	0	1	6.1	73	35	-24	26	11	2	0	0	0.7	24	11.6	23	11+	8	8	15	6.4	
CHICAGO MIDWAY	185	995.6	1018.3	15.8	6.2	11.0	-2.0	23.3	21	0.6	17+	0	0	5.0	69	42	-24	27	12	3	0	0	0.7	23	13.9	SW	8	8	7	16	6.4	47
MOLINE	177	996.6	1018.3	16.2	5.1	10.7	-1.8	25.0	21	-1.7	13	0	3	5.0	71	104	36	37	8	2	0	0	0.6	26	12.1	NW	11	10	7	14	6.0	43
PEORIA	199	994.2	1018.6	16.2	5.2	10.7	-2.1	23.9	21	-2.2	13	0	3	5.6	73	102	38	41	11	3	0	0	0.6	22	13.9	SE	7	9	6	16	6.1	53
ROCKFORD	221	991.2	1018.6	15.4	3.5	9.5	-2.0	22.8	21	-2.8	13	0	6	4.4	73	57	-15	24	10	1	0	0	0.4	25	10.7	26	11	10	6	15	6.2	
SPRINGFIELD	179	996.3	1018.6	17.9	6.3	12.1	-1.6	25.6	21	-1.1	13	0	1	6.7	73	131	53	64	12	4	0	0	0.8	22	13.4	NW	1	12	4	15	5.8	59
INDIANA																																
EVANSVILLE	116	1004.7	1018.9	19.3	6.9	13.1	-1.4	27.8	1	0.6	17+	0	0	8.3	76	71	7	33	8	1	0	0	0.4	30	13.9	NW	1	7	12	12	6.0	55

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	988.5	1018.8	15.9	5.0	10.5	-1.5	21.7	24	-4.4	17	0	4	5.6	75	54	-19	18	11	2	T	0	0.9	27	12.5	W	11	7	9	15	6.2	59
INDIANAPOLIS	241	989.5	1018.9	18.2	6.5	12.3	-0.8	23.3	24+	-0.6	17+	0	3	8.3	80	71	7	77	9	1	0	0	0.5	27	14.8	NW	1	7	7	17	6.4	57
SOUTH BEND	236	989.8	1018.0	15.4	5.1	10.3	-1.6	22.2	24	-1.1	13	0	2	6.1	77	78	1	27	15	2	8	T	0.8	24	11.6	25	11	7	4	20	6.9	
IOWA																																
BURLINGTON	211			16.6	6.1	11.3	-1.6	26.1	21	0.0	16	0	1	5.6	70	97	20	38	9	3	0	0	0.4	26	13.4	13	7	11	7	13	5.4	
DES MOINES	286	983.1	1018.0	16.3	6.2	11.3	-1.1	25.0	21	-0.6	16	0	1	5.6	71	130	75	31	11	1	0	0	0.2	25	15.6	NW	8	10	7	14	5.9	54
DUBUQUE	322	979.0		14.3	4.2	9.3	-1.7	21.7	21	-2.8	16	0	5			60	-11	26	9		0	0										
SIOUX CITY	334	978.0	1018.2	16.4	4.7	10.6	-1.2	25.0	20	-3.3	16	0	4	3.3	64	71	29	28	9	1	T	0	0.2	5	15.6	NW	7	8	9	14	6.1	54
WATERLOO	265	986.1	1018.5	13.6	1.9	7.8	-3.1	19.4	21	-5.0	16	0	11	3.3	77	75	14	25	8	1	0	0	0.3	24	12.5	32	10	10	7	14	5.9	
KANSAS																																
CONCORDIA	448	964.1	1017.2	19.7	6.4	13.1	-0.8	27.8	20	-1.1	12	0	2	6.1	67	56	10	34	11	3	0	0	0.4	16	14.8	SE	30	12	7	12	5.3	75
DODGE CITY	787	926.2	1016.8	22.5	7.0	14.8	0.4	31.7	20	-1.1	12	0	2	4.4	58	24	-18	21	3	2	0	0	0.5	21	15.2	NE	14	13	11	7	4.3	84
GOODLAND	1114	889.6	1016.9	19.7	3.2	11.4	-0.1	26.7	26+	-4.4	12+	0	4	0.6	56	4	-21	3	3	1	T	T	0.8	30	14.3	3	14+	16	10	5	3.7	
TOPEKA	267	986.1	1018.0	20.6	6.9	13.7	-0.5	30.6	21	-1.1	16+	0	4	8.3	73	125	58	43	11	5	0	0	0.4	20	10.7	N	15	11	8	12	5.6	57
WICHITA	403	969.9	1017.7	22.1	8.8	15.4	0.1	30.0	21+	0.6	12	0	0	8.3	68	30	-33	20	8	1	0	0	0.9	19	15.2	S	7	11	12	8	4.7	66
KENTUCKY																																
COVINGTON	265	987.1	1018.9	16.6	5.9	11.3	-2.5	25.6	1	-5.0	17	0	3	6.1	74	95	40	36	11	1	0	0	0.7	25	13.0	19	1	9	6	16	6.2	
LEXINGTON	294	983.1	1018.8	18.7	8.1	13.4	-0.9	25.6	1	0.6	17	0	0	7.2	68	96	42	36	10	1	0	0	0.6	18	8.9	29	16	9	4	18	6.6	
LOUISVILLE	145	1001.0	1018.6	18.3	7.8	13.1	-1.4	25.0	22+	0.6	17	0	0	8.3	76	121	61	83	8	1	0	0	0.4	27	10.7	W	18+	9	6	16	6.1	49
LOUISIANA																																
BATON ROUGE	20	1016.3	1018.9	25.1	13.6	19.3	-0.9	32.8	1	5.6	17+	1	0	14.4	77	77	10	32	6	3	0	0	0.8	5	8.9	34	8	14	8	9	4.5	
LAKE CHARLES	3	1017.3	1018.3	26.6	14.5	20.6	-0.6	33.3	2+	6.1	13	2	0	15.0	77	143	54	74	9	5	0	0	1.1	7	9.4	1	12+	14	10	7	4.5	
NEW ORLEANS	1	1017.3	1018.2	25.4	14.8	20.1	-0.9	33.3	1	5.6	14	2	0	15.6	77	110	53	53	5	3	0	0	1.3	3	9.4	25	2	12	10	9	4.7	63
SHREVEPORT	77	1008.8	1018.1	26.8	11.3	19.1	-0.7	34.4	1	1.1	17+	1	0	12.2	70	8	-66	4	3	0	0	0	0.2	12	8.9	36	15+	12	9	10	4.8	65
MAINE																																
CARIBOU	190	991.5		10.7	2.1	6.4	-0.2	18.9	26	-5.0	31	0	9			135	51	37	14		0	0						3	11	17	7.3	
PORTLAND	13	1013.2	1015.7	14.5	3.4	8.9	-0.6	23.9	2	-5.0	24	0	9	4.4	78	211	127	62	12	0	0	0	0.9	31	16.1	E	17+	8	8	15	6.3	55
MARYLAND																																
BALTIMORE	45	1011.9	1017.6	18.8	7.9	13.3	-0.8	27.8	2	1.7	18	0	0	6.1	66	131	60	52	11	1	T	0	1.7	31	19.2	NW	17	8	12	11	5.7	54
MASSACHUSETTS																																
BLUE HILL OBS R	192			15.1	6.2	10.7	-1.1	23.3	2	0.6	24	0	0			163	71	33	13		0	0			24.1	SSE	1					49
BOSTON	5	1014.9	1016.0	16.7	9.2	12.9	-0.1	25.0	2	2.8	24	0	0	7.8	75	118	41	28	12	1	0	0	1.3	28	16.1	NE	14	9	8	14	6.1	52
WORCESTER	301	978.3		14.2	5.1	9.6	-1.3	22.2	27	0.6	24+	0	0	3.3	69	161	71	54	12	1	0	0	1.7	30	11.2	29	18+	7	8	16	6.5	
MICHIGAN																																
ALPENA	210	991.9	1017.6	12.9	2.3	7.6	-0.9	20.6	26+	-5.6	17	0	10	3.3	77	31	-19	17	9	0	T	0	0.7	24	10.7	SE	31+	7	13	11	6.5	48
DETROIT	189			15.1	7.2	11.2	-1.2	20.0	24+	-0.6	17	0	1	4.4	64					1			1.1	26	10.3	22	11					
DETROIT METRO	193	993.2	1017.8	14.4	3.2	8.8	-2.9	19.4	21+	-5.0	17	0	4	2.8	69	35	-28	18	12	1	0	0	0.9	28	11.2	NW	16+	9	9	13	5.9	59
FLINT	235	989.5	1017.6	14.4	4.3	9.3	-1.3	21.7	24	-3.9	17	0	3	5.0	77	53	-4	40	9	1	T	T	1.1	23	12.5	19	8	6	11	14	6.6	
GRAND RAPIDS	239	988.5	1018.0	14.9	3.6	9.2	-1.9	23.3	24	-4.4	17	0	5	5.6	80	58	-7	20	12	1	0	0	0.9	22	18.3	SW	11	7	4	20	7.0	41
HOUGHTON LAKE	350	974.9	1017.7	12.8	1.7	7.3	-1.4	18.9	25	-7.8	17	0	9	3.3	78	48	-18	19	11	1	T	0	0.8	25	8.9	13	8	10	6	15	6.2	
LANSING	256	985.8	1017.9	14.5	3.6	9.1	-1.8	22.2	24	-5.0	17	0	5	5.6	82	30	-28	12	9	2	0	0	1.2	24	14.3	SW	11	6	9	16	6.7	47
MARQUETTE U	206			12.9	5.3	9.1	-0.2	22.8	20	0.0	23	0	1			67	5	30	11		T	0			12.1	SW	25					50
MUSKEGON	191	994.6	1017.9	13.7	3.8	8.8	-2.1	22.2	24	-3.9	17+	0	7	5.6	80	62	-6	33	11	2	T	0	0.8	26	15.6	24	11	8	7	16	6.8	
SAULT STE MARIE	220	989.8	1016.8	11.9	2.2	7.1	-0.8	17.8	4	-4.4	17	0	6	3.9	83	47	-25	21	9	0	T	0	0.2	3	12.5	NW	5	7	11	13	6.5	43
MINNESOTA																																
DULUTH	435	965.1	1017.3	11.4	2.2	6.8	-0.6	18.3	20	-2.8	22	0	6	0.0	66	81	23	48	8	0	43	25	0.8	27	14.8	NE	8+	9	10	12	5.9	53
INTERNATIONAL FALLS	359	972.9	1016.7	12.2	0.3	6.3	-0.1	20.0	13	-5.6	22	0	18	0.6	71	20	-23	9	9	0	T	T	0.8	23	10.7	34	11	11	6	14	5.9	
MINNEAPOLIS	254	986.8	1017.9	14.0	2.8	8.4	-1.6	22.2	20	-2.2	16	0	6	2.8	72	59	14	23	9	1	76	25	0.2	30	13.9	W	17+	8	9	14	6.1	49
ROCHESTER	395	969.5	1017.9	14.1	2.8	8.5	-1.3	20.6	20	-3.9	16	0	6	2.8	72	50	4	21	7	1	T	0	1.0	23	14.3	30	11	7	13	11	6.0	
ST CLOUD	313	979.7	1017.6	14.0	1.6	7.8	-0.9	22.8	20	-5.0	16	0	10			74	31	41	7		T	0						9	10	12	5.9	
MISSISSIPPI																																
JACKSON	94	1007.1	1019.0	23.7	9.6	16.7	-2.1	32.8	1	0.0	17	1	1	11.7	76	71	14	34	6	2	0	0	0.4	6	9.4	36	12	12	8	11	4.9	60

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Q	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
MISSISSIPPI																																
MERIDIAN	88	1008.1	1019.3	24.6	10.1	17.3	-0.9	33.3	1	1.1	17	1	0	11.1	73	165	109	110	5	2	0	0	0.7	34	8.0	32	12	12	8	11	5.0	
MISSOURI																																
COLUMBIA REGIONAL	270	986.1	1018.5	18.9	7.3	13.1	-1.3	28.3	27	0.6	13	0	0	7.8	73	112	26	47	13	4	0	0	0.5	20	13.0	NW	18	13	7	11	5.2	56
KANSAS CITY	309	981.0	1017.9	18.3	7.9	13.2	-1.6	28.9	21	1.1	12+	0	0	7.8	75	195	113	72	13	6	0	0	0.6	19	12.1	N	15	13	9	9	5.0	64
ST JOSEPH	247			19.1	6.1	12.6	-1.6	28.9	21	-1.7	16	0	3			209	146	87	8		0	0										
ST LOUIS	163	998.3	1018.9	19.1	6.9	13.1	-2.0	27.8	27	0.6	13	0	0	8.9	80	96	25	42	10	3	0	0	0.7	24	14.8	NW	18	13	7	11	4.9	61
SPRINGFIELD	386	973.2	1018.6	20.1	8.4	14.3	-0.7	28.9	27	1.1	16	0	0	8.9	73	57	-30	20	8	3	0	0	1.6	20	11.6	S	22	14	5	12	4.9	61
MONTANA																																
BILLINGS	1087	892.3	1016.8	16.2	3.4	9.8	0.2	25.6	25+	-2.2	11+	0	6	0.0	56	30	8	10	7	0	86	25	2.4	24	13.9	NW	7	9	11	11	5.9	64
GLASGOW	696	934.0	1016.8	14.5	1.1	7.8	-0.2	22.8	16	-7.8	11	0	9	0.0	64	10	-4	9	4	0	5	T	0.1	14	14.3	32	16	9	6	16	6.3	
GREAT FALLS	1116	889.3	1017.5	15.4	2.1	8.8	-0.3	25.6	18	-6.7	10	0	10	-1.1	55	13	-4	9	4	0	81	51	4.0	23	13.4	SW	12+	7	10	14	6.7	57
HAVRE	788	923.5	1016.1	16.9	0.4	8.7	0.6	25.6	23+	-6.7	27+	0	14	-1.1	58	3	-14	24	1	0	T	0	2.3	24	17.0	NW	16	8	10	13	6.0	65
HELENA	1167	883.2	1019.7	15.7	-0.6	7.6	0.2	21.1	24+	-5.6	11	0	21	-1.1	59	4	-11	2	5	0	10	T	1.7	28	13.0	NW	16	7	10	14	6.3	57
KALISPELL	904	914.0	1020.2	13.5	-2.4	5.6	-0.3	19.4	19+	-8.3	27	0	25	-1.7	66	3	-27	3	2	0	T	0	0.8	20	8.0	17	8	9	5	17	6.5	
MILES CITY	801	923.1	1016.6	15.9	3.1	9.5	0.2	26.1	16	-3.9	11	0	4	1.7	63	29	11		4	0	T		0.4	27								
MISSOULA	972	907.2	1020.5	14.2	-0.7	6.8	0.1	19.4	16	-4.4	27+	0	23	2.2	79	18	-5	8	7	0	T	T	0.7	28	11.6	NW	9	8	5	18	6.7	56
NEBRASKA																																
GRAND ISLAND	561	951.2	1017.7	18.4	4.4	11.4	-0.6	28.9	26	-3.9	12	0	4	4.4	70	36	9	27	8	3	0	0	0.4	1	13.9	36	10	11	11	9	5.3	
LINCOLN	359	974.6	1017.7	17.2	4.4	10.8	-1.9	24.4	26+	-3.9	12	0	6	5.6	74	47	4	33	10	4	0	0	0.6	36	15.2	N	10	10	9	12	5.6	54
NORFOLK	471	961.4	1017.3	17.0	4.3	10.7	-0.7	26.7	26	-3.9	12	0	5	3.3	67	76	42	27	7	3	T	0	0.7	32	15.6	30	7	10	9	12	5.8	
NORTH PLATTE	846	919.4	1017.9	18.9	1.1	10.0	-0.6	29.4	26	-8.9	12	0	13	1.1	61	5	-21	2	5	0	T	0	0.9	35	18.8	NE	14	8	14	9	5.5	69
OMAHA	298			17.6	5.9	11.7	-1.6	25.6	20	-1.7	16	0	3	6.7	75	111	62		10	2	0		0.1	30								
OMAHA (NORTH) WSFO	399			16.1	6.1	11.1	-1.3	23.9	20	-2.2	12	0	2			118	74	50	9	3	0	0			12.5	NW	10	9	8	14	5.7	60
SCOTTSBLUFF	1206	881.1	1017.3	20.1	1.7	10.9	0.8	29.4	26	-7.8	12	0	8	-1.7	48	3	-18	2	3	1	10	T	1.1	35	16.5	31	7	15	9	7	4.0	
VALENTINE	789	925.5		17.1	1.5	9.3	-0.7	28.3	19	-5.0	12	0	11			22	-1	20	6		28	25	0.9	29	18.3	NW	7	13	5	13	5.0	67
NEVADA																																
ELKO	1539	846.9	1018.1	21.9	-0.9	10.6	2.3	27.8	17+	-5.6	8	0	22	-7.8	32	T	-17	T	1	1	0	0	0.4	29	13.0	28	30	19	8	4	3.2	
ELY	1906	811.4	1017.9	19.2	-1.9	8.7	0.9	25.0	16	-7.8	31+	0	22	-6.1	40	8	-7	5	3	4	T	0	2.7	21	17.4	SE	27	18	9	4	3.2	89
LAS VEGAS	659	938.7	1014.2	30.3	13.5	21.9	2.4	35.6	4	8.9	30	11	0	-0.6	26	2	-4	2	1	2	0	0	1.3	22	13.9	SW	6	22	7	2	2.3	91
RENO	1342	867.6	1017.1	22.5	-0.1	11.2	1.1	27.8	17+	-3.9	22	0	22	-3.3	41	4	-7	4	1	1	0	0	0.4	24	13.4	NW	29	18	6	7	3.6	94
WINNEMUCCA	1311	870.6	1018.0	22.7	-2.3	10.2	1.2	28.9	17+	-7.2	8	0	25	-5.6	35	T	-17	T	0	0	0	0	0.4	23	12.1	SW	5	19	6	6	3.2	83
NEW HAMPSHIRE																																
CONCORD	104	1003.4	1016.1	15.7	0.9	8.3	-1.3	23.3	27	-9.4	24	0	13	2.8	71	140	72	49	10	0	0	0	1.0	30	10.3	SE	1	7	9	15	6.3	48
MT WASHINGTON OBS	1909			1.9	-4.6	-1.3	-1.1	7.8	2	-11.7	23	0	27			226	70	56	15	0	378	178			46.0	NE	17	8	2	21	7.4	36
NEW JERSEY																																
ATLANTIC CITY	20	1014.2	1016.6	18.1	7.3	12.7	-1.0	26.1	2	1.7	24+	0	0	7.8	72	106	19	45	13	1	0	0	0.9	30	11.2	7	29+	4	12	15	6.8	43
ATLANTIC CITY U	3			17.2	10.1	13.7	-1.3	27.2	2	4.4	18	0	0			77	0	30	11						16.1	NE	14					
NEWARK	2	1015.6	1016.6	16.9	8.0	12.5	-1.7	22.8	1	2.2	18	0	0	7.2	72	90	18	34	13	3	0	0	1.1	32	10.3	3	15+	5	13	13	6.3	
TRENTON U	17			16.9	8.0	12.4	-1.6	23.9	2	2.8	18	0	0			86	22	33	13		0	0			14.8	NW	17+	5	11	15	6.6	44
NEW MEXICO																																
ALBUQUERQUE	1619	840.8	1016.3	23.2	6.7	14.9	0.4	27.8	5	1.7	26+	0	0	0.6	43	19	-1	19	2	1	0	0	0.4	11	15.6	E	11	22	5	4	2.6	85
CLAYTON	1515			21.8	5.2	13.5	0.8	28.3	4	0.0	12	0	1			T	-28	T	1		0	0										
ROSWELL	1112	892.0	1015.4	25.3	10.3	17.8	2.5	30.0	17+	2.8	13	0	0	5.0	49	16	-15	11	5	1	0	0	0.9	16	12.1	NW	15	18	4	9	4.0	87
NEW YORK																																
ALBANY	84	1006.1	1016.9	15.4	4.2	9.8	-0.9	22.2	27	-4.4	24	0	6	5.6	77	102	35	48	12	1	0	0	1.1	30	13.9	NW	17	6	9	16	6.9	44
BINGHAMTON	485	958.0	1017.3	12.4	3.9	8.2	-2.0	18.3	26+	-1.7	31+	0	3	3.3	75	121	45	46	12	0	T	T	1.4	29	11.6	NW	17+	5	10	16	7.1	42
BUFFALO	215	991.5	1017.5	14.3	5.2	9.8	-1.1	21.1	26+	-1.1	14	0	1	5.0	75	66	-10	25	13	1	T	T	1.1	26	14.3	SW	5	5	11	15	6.9	50
NEW YORK U	40	1013.9	1016.9	16.1	9.3	12.7	-2.1	21.1	27+	4.4	24+	0	0	7.8	74	128	55	50	11	2	0	0	1.0	32	12.1	WNW	17					
NEW YORK KENNEDY	4	1015.9	1016.6	16.2	7.9	12.1	-2.0	22.2	27	2.2	31+	0	0	7.2	74	112	42	36	12	4	0	0	1.4	32	13.0	30	17+	6	11	14	6.1	
NEW YORK LA GUARDIA	3	1015.9	1016.9	16.1	9.2	12.7	-1.8	21.1	27+	3.9	18	0	0	7.8	73	148	73	55	12	3	0	0	1.3	32	15.2	W	17	6	11	14	6.3	
ROCHESTER	167	997.0	1017.4	15.3	4.1	9.7	-1.6	23.9	26	-1.7	24	0	5	6.1	81	67	1	21	12	0	T	0	1.5	26	12.1	SW	12	5	11	15	6.7	42
SYRACUSE	125	1002.0	1017.2	15.4	5.2	10.3	-1.1	23.3	26+	-1.7	24	0	4	4.4	71	121	42	46	15	0	0	0	1.3	27	11.2	S	8	5	13	13	6.6	34

CLIMATOLOGICAL DATA

METRIC UNITS

		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
State and Station	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
NORTH CAROLINA																																
ASHEVILLE	652	942.4	1018.9	18.4	6.4	12.4	-1.4	28.3	2	-1.7	18	0	2	7.2	76	96	14	75	7	0	T	0	2.1	34	11.2	35	17+	10	9	12	5.7	55
CAPE HATTERAS R	2	1016.3	1016.8	21.2	13.6	17.4	-1.0	29.4	2	4.4	18	0	0	13.3	77	232	110	71	13	2	0	0	1.8	35	10.7	25	16	10	5	16	6.2	50
CHARLOTTE	224	990.9	1018.4	20.4	9.3	14.8	-1.7	30.0	2	1.7	18	0	0	8.9	69	120	52	90	9	3	0	0	1.3	36	12.1	W	16	8	9	14	5.9	67
GREENSBORO	273	986.5	1018.5	18.8	6.9	12.8	-2.3	29.4	2	-1.1	18	0	1	8.3	77	119	44	65	10	2	0	0	1.3	35	10.7	NW	16	9	8	14	6.2	50
RALEIGH	132	1002.0	1017.9	19.8	7.3	13.6	-2.1	31.1	2	-1.7	18	0	1	10.0	83	129	57	45	9	3	0	0	1.1	34	10.7	34	14	9	7	15	6.1	52
WILMINGTON	9	1016.3	1017.5	22.7	10.7	16.7	-1.8	32.2	2	2.2	18	1	0	11.7	78	146	61	64	11	0	0	0	1.1	34	13.4	S	26+	9	6	16	6.3	51
NORTH DAKOTA																																
BISMARCK	502	957.3	1017.7	15.0	0.8	7.9	-0.3	25.6	25	-4.4	6	0	12	0.6	64	25	5	24	5	0	89	25	0.6	26	17.9	NW	16	9	7	15	5.8	55
FARGO	273	983.7	1016.8	14.6	2.2	8.4	0.1	22.2	13	-5.0	22	0	9	1.7	65	62	35	39	5	1	T	0	0.9	21	16.1	SE	30+	10	7	14	5.7	62
WILLISTON	579	947.5	1016.8	14.9	0.8	7.9	0.3	24.4	19+	-4.4	15	0	15	1.1	67	10	-6	4	5	0	T	T	1.5	26	13.9	NW	25	8	11	12	5.7	64
OHIO																																
AKRON	368	973.6	1018.5	14.8	5.1	9.9	-1.9	22.2	26	0.6	17+	0	0	3.9	68	52	-8	15	10	1	T	0	0.9	25	11.2	18	8	6	10	15	6.6	
CINCINNATI ABBE OB	232			17.6	7.1	12.3	-2.0	25.6	1	0.0	17	0	1			90	34	38	8						12.1	S	1					61
CLEVELAND	237	989.5	1019.0	16.1	6.7	11.4	-0.7	22.8	1	1.7	15	0	0	6.7	75	49	-16	13	13	1	T	0	1.1	25	10.7	17	8	2	11	18	7.3	43
COLUMBUS	247	988.5	1018.8	16.4	5.8	11.1	-1.2	24.4	1	-3.3	17	0	2	4.4	66	65	17	29	15	1	0	0	0.4	27	12.5	S	8	8	7	16	6.1	52
DAYTON	303	982.1	1018.6	16.4	5.6	11.0	-2.1	22.2	24+	-3.9	17	0	2	5.0	69	98	49	46	12	1	T	0	0.8	27	14.3	SW	1	8	8	15	6.1	48
MANSFIELD	395			15.1	5.4	10.3	-2.3	22.2	1	-3.3	17	0	3	5.0	73	44	-6	12	11	2	T	0	1.3	25	12.5	18	8	9	8	14	6.2	
TOLEDO	204	992.9	1018.3	15.4	3.7	9.6	-2.1	21.7	24	-6.1	17	0	5	4.4	74	45	-12	21	7	1	0	0	1.0	28	11.6	NW	16	9	9	13	5.9	52
YOUNGSTOWN	359	975.3	1018.2	15.3	5.8	10.6	-0.9	23.3	26	-1.1	14	0	1	5.0	73	57	-18	17	8	0	T	0	0.7	26	9.4	27	17+	4	13	14	6.8	
OKLAHOMA																																
OKLAHOMA CITY	392	971.6	1017.9	24.1	10.0	17.1	0.2	31.1	26+	-0.6	16	0	1	7.2	60	61	-4	51	7	1	0	0	1.1	16	14.8	NW	10	13	10	8	4.7	65
TULSA	198	993.6	1017.7	23.7	9.8	16.8	-0.4	30.6	27	1.1	12	0	0	10.0	70	70	-12	50	6	0	0	0	1.5	17	12.5	SE	30+	12	6	13	5.3	59
OREGON																																
ASTORIA	2	1017.3	1018.1	16.4	5.5	10.9	-0.6	22.2	11	1.1	3	0	0	7.8	82	111	-61	25	16	0	0	0	0.7	15	16.5	17	24	6	7	18	7.0	
BURNS U	1265			17.4	1.0	9.2	0.7	26.1	18	-2.2	31+	0	12			11	-11	5	6		T	T			16.5Y	SW	25	12	9	10	4.6	
EUGENE	109	1004.7	1018.3	17.5	5.2	11.4	-0.4	22.2	12	1.7	10+	0	0	7.8	83	73	-29	20	9	0	0	0	0.5	21	11.2	19	24	1	8	22	8.1	
MEDFORD	396	970.5	1018.3	18.7	4.7	11.7	-0.2	25.6	11	0.0	21	0	1	6.7	78	24	-28	19	4	0	0	0	0.3	30	10.3	14	28	10	10	11	5.9	
PENDLETON	452	965.1	1019.1	15.9	4.0	10.0	-1.4	26.7	24	-0.6	27	0	2	3.9	70	13	-15	7	6	0	0	0	0.7	21	15.6	28	24	10	11	10	5.5	
PORTLAND	6	1016.9	1018.3	17.5	6.7	12.1	0.0	22.2	11	2.8	27+	0	0	7.8	79	58	-33	14	10	0	0	0	0.4	20	11.2	SW	24	4	9	18	7.3	56
SALEM	60	1010.5	1018.0	17.4	4.9	11.2	-0.6	21.7	11	-1.1	17	0	1	7.2	78	60	-41	26	10	0	0	0	0.8	21	10.7	20	24	4	10	17	7.1	
SEXTON SUMMIT R	1169	885.2	1017.5	13.8	5.6	9.7	-0.6	26.1	17	0.6	30	0	0			46	-46	15	10		T	0	1.2	16	23.7Y	S	29					
PACIFIC AREA																																
GUAM TAGUAC R	110			29.8	22.3	26.1	0.0	31.1	17+	19.4	29+	0	0			423	58	156	23		0	0			13.0	SW	22	1	10	20	8.0	36
JOHNSTON	2	1012.2	1012.6	29.2	26.0	27.6	0.6	30.6	17+	23.3	31	0	0	23.3	79	54	-34	16	18	1	0	0	7.2	9	15.6	E	31	7	13	11	5.9	77
KOROR R	29	1005.8		31.3	25.0	28.2	0.4	32.8	26	22.8	5	8	0			270	-50	62	26	3	0	0	2.4	27	9.8	N	15	0	8	23	8.8	56
KWAJALEIN	2	1008.8		30.6	25.4	28.0	0.0	33.3	24	23.3	13+	1	0			358	54	78	26	2	0	0	1.8	10	10.7	8	14	0	4	27	8.9	
MAJURO	3	1009.1		30.6	23.9	27.3	-0.1	32.2	4	22.8	25+	1	0			447	40	117	26		0	0	1.8	8	11.6	W	20	0	10	21	8.6	52
PAGO PAGO	4	1011.9	1012.1	29.1	24.2	26.7	0.3	30.6	12	20.0	24	0	0	22.8	81	256	-52	65	18	0	0	0	4.7	12	12.1	S	17+	0	10	21	8.1	
PONAPE R	37			31.4	23.0	27.2	0.4	33.3	6+	21.7	21	14	0			508	91	156	25	3	0	0			8.9	NW	21	0	5	26	9.0	37
TRUK MOEN ISLAND	2	1008.8		30.8	24.8	27.8	0.6	31.2	23+	22.2	8	4	0			412	72	81	25	1	0	0	3.0	25	14.8	W	27	0	0	31	9.9	9
WAKE	3	1012.2	1012.6	30.3	24.2	27.2	-0.3	31.7	22+	21.7	8	0	0	22.8	78	262	124	64	25	2	0	0	6.6	8	14.8	SE	27	5	6	20	7.5	56
YAP R	13	1006.8		30.9	23.9	27.4	-0.1	32.2	29	22.2	30+	1	0			146	-169	34	20	1	0	0	1.7	28	10.3	W	20	1	5	25	8.6	27
PENNSYLVANIA																																
ALLENTOWN	118	1003.4	1017.5	17.0	6.7	11.8	-0.4	22.8	27	1.7	31+	0	0	7.2	75	107	38	31	12	2	T	0	1.1	30	13.9	28	17	5	11	15	6.4	
ERIE	223	991.2	1018.3	13.6	5.7	9.7	-1.2	21.1	26	0.0	14	0	1	5.6	77	86	3	35	11	1	0	0	0.8	23	12.5	16	31+	7	10	14	6.6	
HARRISBURG	103	1005.1	1017.8	16.3	6.7	11.5	-1.7	22.2	27	0.0	31	0	1	6.7	74	93	28	35	12	0	T	0	1.7	30	14.8	NW	17	8	10	13	6.2	45
PHILADELPHIA	2	1016.3	1017.2	17.4	7.3	12.4	-1.7	26.1	2	1.7	18	0	0	7.2	74	79	15	25	13	1	0	0	1.3	33	12.5	NW	17+	5	10	16	6.5	45
PITTSBURGH	347	974.3	1018.7	15.3	5.2	10.3	-1.5	22.8	1	0.0	14	0	1			62	-2	23	11	1	T	0	0.9	29	10.3	30	11	4	14	13	6.8	39
SCRANTON	283	983.1	1017.6	14.2	4.1	9.2	-2.3	21.7	27	-1.7	31	0	3	5.0	77	134	65	45	13	2	15	T	0.7	27	13.9	SW	1	7	9	15	6.7	41
WILLIAMSPORT	160	998.6	1018.0	15.8	4.7	10.2	-1.6	21.1	27	-2.2	31	0	3			107	26	39	13	0	25	25	1.4	30	12.5	26	9	4	16	11	6.5	
RHODE ISLAND																																
BLOCK ISLAND	34			15.6	10.0	12.8	-0.1	21.7	21+	3.9	24	0	0			123	50	37	13		0	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
RHODE ISLAND																																
PROVIDENCE	16	1013.9	1016.2	16.4	6.8	11.6	-0.4	23.9	27	-2.2	24	0	1	6.7	72	175	92	56	13	2	0	0	1.2	29	11.6	4	14	10	7	14	6.2	53
SOUTH CAROLINA																																
CHARLESTON	12	1016.3	1018.2	23.8	11.2	17.5	-1.4	32.8	2	2.8	17	1	0	11.7	74	63	-14	53	6	2	0	0	1.2	34	11.2	27	16	8	12	11	5.8	71
CHARLESTON U	3			22.4	13.4	17.9	-2.1	32.2	2	5.0	17	1	0			40	-37	26	6		0	0										
COLUMBIA	65	1009.8	1018.1	22.5	8.1	15.3	-2.6	30.0	1	0.0	18	0	1	10.0	75	122	57	85	9	1	0	0	0.8	36	9.4	30	16+	10	11	10	5.6	68
GRNVLLE-SPRTNBRG	292	983.4	1018.2	20.9	10.0	15.5	-1.0	30.0	2	1.7	18	0	0	8.3	66	162	82	115	9	1	0	0	1.1	36	9.4	SW	18	10	13	8	5.0	72
SOUTH DAKOTA																																
ABERDEEN	395	970.2	1017.7	15.1	1.0	8.1	-0.8	23.9	13	-3.9	22	0	13	1.1	66	31	1	29	3	0	5	T	0.6	26	13.0	31	17	14	6	11	5.2	
HURON	390	970.2	1017.2	15.9	2.3	9.1	-0.7	24.4	13	-3.3	6	0	8	2.8	69	40	2	20	6	2	T	T	0.5	21	14.8	NW	17	12	4	15	5.6	57
RAPID CITY	964	906.9	1018.2	16.5	2.2	9.3	-0.7	26.7	25+	-5.0	12	0	7	1.7	64	27	5	26	8	0	20	25	1.3	33	17.4	NW	7	13	5	13	5.1	69
SIOUX FALLS	432	965.8	1017.9	14.8	2.6	8.7	-1.4	23.3	20	-3.3	16	0	7	2.8	69	60	22	61	6	1	23	T	0.2	36	16.5	28	7	11	4	16	5.8	
TENNESSEE																																
BRISTOL	459	964.8	1019.3	17.5	6.1	11.8	-2.6	23.9	2	-0.6	18	0	2	6.1	71	124	67	42	11	2	T	0	0.6	32	9.8	2	1	8	7	16	6.5	
CHATTANOOGA	203	994.2	1019.0	20.5	8.1	14.3	-1.7	30.0	1	0.6	17	0	0	9.4	75	158	83	89	6	2	0	0	0.7	36	8.0	35	12	9	7	15	5.8	51
KNOXVILLE	299	983.7	1018.9	19.7	8.5	14.1	-1.9	28.3	1	1.7	17	0	0	8.9	74	103	35	43	9	2	0	0	1.0	35	10.3	28	16	6	9	16	6.6	67
MEMPHIS	79	1009.1	1019.2	22.8	10.7	16.8	-0.4	30.6	1	3.3	17+	0	0	8.9	63	51	-14	28	7	2	0	0	0.0	11	9.4	21	1	10	9	12	5.7	66
NASHVILLE	180	997.3	1019.3	20.0	7.7	13.9	-2.2	30.0	1	-0.6	17	0	2	8.3	75	107	52	49	7	1	0	0	0.5	28	9.4	34	16	9	11	11	5.5	58
OAK RIDGE R	276			18.4	5.6	12.0	-3.1	25.6	1	-1.7	17	0	3			126	57	64	9		0	0			12.5		25	10	7	14	6.3	
TEXAS																																
ABILENE	544	954.6	1016.9	26.1	12.6	19.4	0.4	31.7	10+	0.6	12	0	0	9.4	59	55	-11	24	9	3	0	0	2.0	17	15.6	N	10	14	6	11	4.7	68
AMARILLO	1098	893.3	1016.2	23.6	8.2	15.9	0.7	29.4	7	1.7	12	0	0	2.8	46	7	-40	7	1	0	0	0	2.0	21	13.4	20	9	16	3	12	4.3	79
AUSTIN	182	995.6	1017.6	28.1	15.9	22.0	0.8	35.0	1	5.6	13	2	0	12.8	61	30	-46	27	4	4	0	0	0.8	14	14.8	N	11	14	9	8	4.7	67
BROWNSVILLE	6	1015.9	1016.3	30.8	19.3	25.1	0.8	35.6	2+	10.0	13	12	0	18.9	73	73	-11	50	8	2	0	0	1.7	11	12.1	N	11	9	12	10	5.6	66
CORPUS CHRISTI	12	1015.2	1016.9	29.9	18.6	24.3	1.0	36.1	8+	7.8	13	6	0	19.4	77	120	50	36	7	4	0	0	2.5	11	13.0	36	22	8	15	8	5.3	67
DALLAS - FORT WORTH	168	996.3	1017.7	26.4	12.1	19.3	-0.5	36.7	1	1.7	12	3	0	10.6	64	75	7	50	6	3	0	0	0.9	17	10.3	36	11+	11	10	10	4.9	
DEL RIO	313	980.0	1015.9	28.4	16.4	22.4	0.7	37.8	1	6.1	13	5	0	13.9	64	126	73	58	6	5	0	0	2.5	12	10.7	34	11	12	9	10	5.5	
EL PASO	1194	884.2	1015.4	25.3	10.6	17.9	0.2	32.2	1	5.6	26+	1	0	6.7	54	42	22	25	8	0	0	0	0.1	20	10.7	7	11	16	4	11	4.3	77
GALVESTON	2			25.4	19.9	22.7	-0.2	30.0	1	12.8	12	0	0			75	3	30	7		0	0			12.1	NE	12					50
HOUSTON INTERCON	29	1014.6	1018.2	27.8	13.5	20.7	-0.9	33.3	8+	2.2	13	2	0	13.9	71	21	-82	14	8	2	0	0	0.9	9	8.9	36	12	11	10	10	5.0	67
LUBBOCK	992	905.9	1016.4	24.4	10.4	17.4	1.3	29.4	10	2.8	12	0	0	6.1	54	28	-24	15	4	2	0	0	0.9	19	10.7	4	15	16	5	10	4.1	70
MIDLAND	869	918.1	1015.5	26.3	12.5	19.4	0.7	31.7	1	5.0	12	0	0	7.8	53	32	-3	14	6	3	0	0	1.6	15	15.6	27	7	14	6	11	4.5	
PORT ARTHUR	5	1017.6		27.9	16.3	22.1	1.1	35.0	1	6.1	13	3	0	15.6	72	103	9	33	6	4	0	0	1.1	9	13.0	NW	8	13	8	10	4.7	68
SAN ANGELO	580	950.2	1016.3	27.2	14.1	20.7	1.1	35.6	1	3.3	12	3	0	10.6	57	35	-12	23	7	2	0	0	1.4	16	10.3	20	7	13	6	12	5.1	
SAN ANTONIO	240	989.2	1017.0	27.9	15.6	21.8	0.4	34.4	1	3.3	13	2	0	13.9	66	88	16	53	6	4	0	0	1.0	11	13.9	2	11	10	13	8	5.4	59
VICTORIA	32	1013.5	1017.5	28.8	16.5	22.7	0.3	34.4	2+	6.7	13	4	0	16.1	71	107	15	49	7	5	0	0	1.3	10	26.8Y	W	22	10	13	8	5.3	
WACO	153	999.7	1017.6	28.7	15.1	21.9	1.3	37.8	1	3.9	12	7	0	12.8	62	38	-27	30	5	4	0	0	1.2	15	13.0	1	11	12	6	13	5.0	
WICHITA FALLS	303	980.7	1017.3	26.6	10.6	18.6	-0.3	32.2	26+	1.7	16+	2	0	8.3	58	18	-51	15	4	1	0	0	1.6	16	13.4	1	15	15	5	11	4.6	
UTAH																																
MILFORD	1533	848.6	1018.1	21.8	0.3	11.1	0.7	27.8	3	-5.6	30	0	18			7	-13	5	4		0	0			17.0	SW	5	21	4	6	2.8	83
SALT LAKE CITY	1286	873.7	1017.6	20.8	5.4	13.1	1.8	26.7	26	0.6	31	0	0	2.2	54	21	-8	16	5	2	5	0	1.3	15	13.0	S	29+	17	8	6	3.5	78
VERMONT																																
BURLINGTON	101	1004.1	1016.6	12.9	3.3	8.1	-1.2	21.1	26	-3.9	24	0	9	3.9	77	128	58	32	12	0	0	0	0.5	30	10.7	S	26	6	8	17	7.1	44
VIRGINIA																																
LYNCHBURG	279	984.4		18.1	7.0	12.6	-1.9	28.9	2	-0.6	18	0	1			147	81	66	10		0	0	1.3	35	11.2	SW	1	8	12	11	6.0	52
NORFOLK	7	1016.6	1017.6	20.3	11.4	15.8	-0.7	31.1	2	1.1	18	0	0	10.0	71	155	77	42	10	1	0	0	1.3	36	13.4	4	29	7	11	13	6.4	53
RICHMOND	50	1011.2	1017.7	20.6	7.5	14.1	-1.1	32.2	2	-2.2	18	1	1	9.4	76	200	125	110	9	1	0	0	0.9	35	9.8	NW	17+	5	12	14	6.5	67
ROANOKE	350	976.3	1018.6	17.5	6.4	12.0	-2.3	27.2	2	-0.6	18	0	1	6.7	72	119	38	51	10	1	T	0	1.5	32	13.4	34	3	9	9	13	6.2	
WALLOPS ISLAND	3			17.8	9.9	13.9	-1.8	30.6	2	2.8	18	0	0			96	23	28	11		0	0			26.8Y	W	16					
WASHINGTON																																
OLYMPIA	59	1010.5	1018.0	15.6	2.7	9.2	-1.2	21.7	15	-1.7	4	0	3	6.7	85	86	-48	21	13	0	0	0	1.0	19	10.3	23	24	1	11	19	7.8	
QUILLAYUTE	55	1009.5	1017.2	15.1	4.1	9.6	-0.8	21.7	11	-1.7	20	0	3	7.2	87	234	-60	46	19	3	0	0	0.9	15	13.4	S	23	5	9	17	7.3	44
SEATTLE U	6			15.3	7.2	11.2	-1.1	21.7	15	5.0	27+	0	0			69	-18	19	12		0	0			19.2Y	S	30					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No of days (sunrise to sunset)				
												No of days							No. of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1001.4	1017.8	15.0	7.4	11.2	0.0	20.6	15	5.0	27+	0	0	6.1	74	66	-33	17	13	1	0	0	0.5	15	13.4	SW	23	4	9	18	7.4	30
SPOKANE	718	934.0	1018.5	14.1	2.1	8.1	-0.7	19.4	24+	-3.9	10	0	8	2.2	70	11	-25	5	5	0	0	0	1.2	19	14.3	SW	30	8	7	16	6.3	56
STAMPEDE PASS R	1206	880.5		8.1	1.3	4.7	-0.7	16.7	15	-1.7	31+	0	9			151	-74	46	16		625	330										
WALLA WALLA U	289			17.3	6.4	11.9	-0.6	26.7	24	1.7	27+	0	0			12	-25	7	5		0	0			11.6	SW	30	11	9	11	5.5	63
YAKIMA	321	980.0		17.6	1.2	9.4	-0.7	21.7	19+	-3.3	31	0	11			4	-10	3	3	0	0	0			12.5	30	30	7	14	10	5.6	
WEST INDIES																																
SAN JUAN P.R.	4	1012.2	1014.4	30.9	24.5	27.7	0.7	33.3	20	23.3	6	3	0	22.2	74	151	8	55	15	6	0	0	2.6	10	13.4	E	7	4	16	11	6.3	51
WEST VIRGINIA																																
BECKLEY	763	929.9	1019.0	14.3	4.9	9.6	-2.0	22.8	22	-3.3	17	0	3	5.6	79	104	41	31	11	1	T	T	0.8	24	10.7	13	26+	6	4	21	7.4	
CHARLESTON	286	984.8	1019.1	17.2	6.6	11.9	-2.0	25.0	23	-0.6	17	0	1	6.1	73	106	43	43	12	1	0	0	1.1	23	9.8	21	1	6	8	17	6.9	
ELKINS	594	947.9		15.3	3.1	9.2	-1.7	23.3	1	-4.4	18+	0	8			95	26	24	12		T	0						5	4	22	7.6	
HUNTINGTON	252	988.5	1018.8	17.6	7.1	12.3	-1.6	23.9	1	0.6	17	0	0	6.1	69	111	58	53	11	1	T	0	0.5	28	10.3	28	1	5	9	17	7.3	
PARKERSBURG U	187			17.2	6.8	12.0	-1.9	25.0	1	-1.1	17	0	1			61	7	18	13		0	0			14.8	W	18					51
WISCONSIN																																
GREEN BAY	208	991.5	1017.6	14.2	2.8	8.5	-1.1	18.3	21+	-2.8	13	0	6	4.4	78	35	-14	19	10	0	0	0	1.1	25	13.4	SW	11	7	11	13	6.0	56
LA CROSSE	198	993.2	1018.1	14.6	4.3	9.4	-1.6	20.6	21	-1.7	16	0	4	2.2	65	47	-5		7	0	0		0.2	24								
MADISON	262	986.1	1017.9	14.8	2.4	8.7	-1.3	18.9	21+	-3.3	13	0	8	5.0	80	36	-19	18	11	1	0	0	0.8	26	13.4	SW	11	11	6	14	5.9	46
MILWAUKEE	205	992.6	1018.0	13.9	5.0	9.4	-1.1	20.6	21	-1.1	13	0	3	5.6	78	51	1	31	14	1	T	0	1.2	25	17.9	SW	11	6	11	14	6.6	45
WYOMING																																
CASPER	1627	839.5	1017.6	17.7	1.0	9.3	0.6	26.1	3	-6.7	31	0	13	-2.8	51	18	-5	6	7	1	109	102	3.0	24	13.4	23	26	12	6	13	5.0	
CHEYENNE	1867	813.4	1016.7	16.7	1.4	9.1	0.2	25.0	3	-9.4	11	0	6	-6.1	39	2	-22	1	3	0	10	T	3.5	29	25.5	W	31	16	7	8	4.1	68
LANDER	1696	831.4	1018.0	16.6	1.2	8.9	0.7	24.4	18+	-5.6	11	0	11	-2.8	50	23	-8	15	4	0	94	76	0.8	23	17.9	SW	30	16	9	6	4.3	77
SHERIDAN	1208	880.5	1018.2	17.2	0.2	8.7	-0.1	27.8	16	-9.4	11+	0	13	0.6	64	32	6	21	7	0	213	203	1.1	31	16.1	W	30	12	10	9	5.1	64

HEATING DEGREE DAYS

(Base 65°F.)

OCTOBER 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	176	176	143
HUNTSVILLE	216	220	170
MOBILE	73	73	39
MONTGOMERY	87	97	93
ALASKA			
ANCHORAGE	820	1460	1949
ANNETTE	560	1279	1333
BARROW	1382	3687	4246
BARTER ISLAND	1294	3731	4093
BETHEL	1112	2100	2392
BETTLES	1321	2229	2782
BIG DELTA	1149	1959	2379
COLD BAY	805	1924	2205
FAIRBANKS	1216	2014	2304
GULKANA	1046	2059	2446
HOMER	813	1898	2181
JUNEAU	695	1562	1813
KING SALMON	1025	2127	2177
KODIAK	785	1912	1354
KOTZEBUE	1247	2256	2918
MC GRATH	1142	1938	2443
NOME	1169	2313	2771
ST. PAUL ISLAND	862	2289	2602
TALKEETNA	958	1832	2129
UNALAKLEET	1256	2324	2561
VALDEZ	741	1822	2174
YAKUTAT	687	1750	1986
ARIZONA			
FLAGSTAFF	432	617	934
PHOENIX	0	0	17
TUCSON	1	1	29
WINSLOW	207	212	271
YUMA	0	0	0
ARKANSAS			
FORT SMITH	142	142	139
LITTLE ROCK	105	105	148
CALIFORNIA			
BAKERSFIELD	12	12	55
BISHOP	169	233	305
BLUE CANYON	288	597	534
EUREKA U	342	1075	1099
FRESNO	46	46	90
LONG BEACH	4	4	59
LOS ANGELES	19	20	134
LOS ANGELES U	14	14	40
MT SHASTA R	459	771	668
OAKLAND	86	161	348
RED BLUFF	46	54	82
SACRAMENTO	68	85	106
SANDBERG R	139	262	262
SAN DIEGO	0	0	65
SAN FRANCISCO	139	345	380
SAN FRANCISCO U	139	545	608
SANTA MARIA	145	297	467
STOCKTON	41	43	88
COLORADO			
ALAMOSA	521	937	1093
COLORADO SPRINGS	413	510	633
DENVER	358	412	528
GRAND JUNCTION	214	232	384
PUEBLO	343	361	390
CONNECTICUT			
BRIDGEPORT	248	307	303
HARTFORD	399	520	502
DELAWARE			
WILMINGTON	353	365	286
DIST. OF COLUMBIA			
WASHINGTON DULLES	339	365	334
WASHINGTON NATIONAL	196	197	204
FLORIDA			
APALACHICOLA U	56	56	22
DAYTONA BEACH	23	23	0
FORT MYERS	5	5	0
JACKSONVILLE	70	70	19
KEY WEST	0	0	0
LAKELAND U	10	10	0
MIAMI	0	0	0
ORLANDO	6	6	0
PENSACOLA	55	55	32
TALLAHASSEE	93	93	31
TAMPA	18	18	0
WEST PALM BEACH	0	0	0
GEORGIA			
ATHENS	187	189	138
ATLANTA	178	182	145
AUGUSTA	153	153	104
COLUMBUS	110	110	81
MACON	121	121	82
ROME	216	220	185
SAVANNAH	96	96	60
IDAHO			
BOISE	362	547	545
LEWISTON	435	621	550
POCATELLO	447	675	727
ILLINOIS			
CAIRO U	205	205	168
CHICAGO O HARE	413	463	475
CHICAGO MIDWAY	402	458	381
MOLINE	420	475	434
PEORIA	416	463	405
ROCKFORD	488	596	513
SPRINGFIELD	340	363	338
INDIANA			
EVANSVILLE	289	292	270
FORT WAYNE	429	504	465
INDIANAPOLIS	326	356	370
SOUTH BEND	443	521	496
IOWA			
BURLINGTON	381	436	398
DES MOINES	388	426	457
DUBUQUE	500	665	594
SIOUX CITY	428	492	501
WATERLOO	584	796	596
KANSAS			
CONCORDIA	291	314	348
DODGE CITY	219	222	288
GOODLAND	377	429	495
TOPEKA	263	269	314
WICHITA	176	177	243
KENTUCKY			
COVINGTON	391	425	315
LEXINGTON	277	283	286
LOUISVILLE	295	301	276
LOUISIANA			
BATON ROUGE	56	56	54
LAKE CHARLES	36	36	36
NEW ORLEANS	43	43	40
SHREVEPORT	72	72	70
MAINE			
CARIBOU	657	1214	1190
PORTLAND	518	834	775
MARYLAND			
BALTIMORE	278	287	277
MASSACHUSETTS			
BLUE HILL OBS R	419	591	497
BOSTON	304	393	385
WORCESTER	481	718	593
MICHIGAN			
ALPENA	587	998	999
DETROIT	392	442	433
DETROIT METR	524	627	493
FLINT	496	635	630
GRAND RAPIDS	501	651	558
HOUGHTON LAKE	610	973	940
LANSING	514	689	591
MARQUETTE U	504	924	879
MUSKEGON	526	688	610
SAULT STE MARIE	621	1313	1095
MINNESOTA			
DULUTH	636	1225	1100
INTERNATIONAL FALLS	666	1313	1209
MINNEAPOLIS	548	728	677
ROCHESTER	543	747	726
ST CLOUD	582	869	822
MISSISSIPPI			
JACKSON	136	136	91
MERIDIAN	108	108	111
MISSOURI			
COLUMBIA REGIONAL	287	301	289
KANSAS CITY	293	314	277
ST JOSEPH	322	348	319
ST LOUIS	291	302	259
SPRINGFIELD	233	237	268
MONTANA			
BILLINGS	463	730	733
GLASGOW	583	1047	885
GREAT FALLS	527	963	844
HAVRE	531	882	892
HELENA	593	1007	1005
KALISPELL	707	1264	1256
MILES CITY	485	743	750
MISSOULA	637	1082	1059
NEBRASKA			
GRAND ISLAND	390	428	475
LINCOLN	413	455	412
NORFOLK	423	473	537
NORTH PLATTE	458	590	595
OMAHA	361	390	378
OMAHA (NORTH) WSFO	394	438	459
SCOTTSBLUFF	407	502	627
VALENTINE	499	656	642
NEVADA			
ELKO	430	621	895
ELY	535	825	939
LAS VEGAS	3	3	74
RENO	392	568	691
WINNEMUCCA	444	677	765
NEW HAMPSHIRE			
CONCORD	551	848	730
MT WASHINGTON OBS	1091	2948	2813
NEW JERSEY			
ATLANTIC CITY	311	341	297
ATLANTIC CITY U	267	278	222
NEWARK	319	369	277
TRENTON U	321	359	291
NEW MEXICO			
ALBUQUERQUE	192	193	225
CLAYTON	268	288	397
ROSWELL	68	68	212
NEW YORK			
ALBANY	471	685	588
BINGHAMTON	560	802	689
BUFFALO	473	628	602
NEW YORK U	307	363	238
NEW YORK KENNEDY	344	419	289
NEW YORK LA GUARDIA	309	368	254
ROCHESTER	477	643	559
SYRACUSE	444	639	541
NORTH CAROLINA			
ASHEVILLE	331	345	319
CAPE HATTERAS R	103	103	76
CHARLOTTE	215	218	162
GREENSBORO	307	314	233
RALEIGH	283	287	198
WILMINGTON	144	144	80
NORTH DAKOTA			
BISMARCK	574	948	869
FARGO	549	862	838
WILLISTON	577	983	929
OHIO			
AKRON	458	551	495
CINCINNATI ABBE OB	327	340	282
CLEVELAND	378	468	475
COLUMBUS	394	448	426
DAYTON U	403	455	377
MANSFIELD	442	538	421
TOLEDO	481	584	501
YOUNGSTOWN	429	531	533
OKLAHOMA			
OKLAHOMA CITY	115	115	160
TULSA	118	119	153
OREGON			
ASTORIA	403	906	893
BURNS U	499	910	873
EUGENE	385	651	577
MEDFORD	360	483	481
PENDLETON	461	716	500
PORTLAND	339	529	570
SALEM	392	653	582
SEXTON SUMMIT R	477	1006	941
PENNSYLVANIA			
ALLENTOWN	356	422	435
ERIE	477	647	623
HARRISBURG	377	417	344
PHILADELPHIA	328	352	287
PITTSBURGH	442	572	493
PITTSBURGH U	371	410	362
SCRANTON	505	675	532
WILLIAMSPORT	444	509	479
RHODE ISLAND			
BLOCK ISLAND	301	388	400
PROVIDENCE	368	477	453
SOUTH CAROLINA			
CHARLESTON	112	112	74
CHARLESTON U	93	93	50
COLUMBIA	192	193	112
GRNVLLE-SPRTNBRG	184	186	154
SOUTH DAKOTA			
ABERDEEN	569	782	765
HURON	506	662	673
RAPID CITY	494	706	695
SIOUX FALLS	530	677	658
TENNESSEE			
BRISTOL	354	376	204
CHATTANOOGA	233	236	191
KNOXVILLE	242	245	185
MEMPHIS	123	123	149
NASHVILLE	255	258	190
OAK RIDGE	352	362	236
TEXAS			
ABILENE	56	56	89
AMARILLO	151	151	224
AUSTIN	16	16	39
BROWNSVILLE	0	0	8
CORPUS CHRISTI	4	4	7
DALLAS FT WORTH	55	55	66
DEL RIO	6	6	34
EL PASO	56	56	92
GALVESTON	6	6	12
HOUSTON INTERCON	34	34	24
LUBBOCK	80	80	170
MIDLAND	47	47	81
PORT ARTHUR	16	16	35
SAN ANGELO	44	44	73
SAN ANTONIO	19	19	32
VICTORIA	6	6	18
WACO	22	22	51
WICHITA FALLS	64	64	92
UTAH			
MILFORD	399	575	570
SALT LAKE CITY	282	366	512
VERMONT			
BURLINGTON	554	848	762
VIRGINIA			
LYNCHBURG	325	337	267
NORFOLK	158	158	150
RICHMOND	259	263	224
ROANOKE	350	368	267
WALLOPS ISLAND	259	266	190
WASHINGTON			
OLYMPIA	502	1000	836
QUILLAYUTE	479	1151	1078
SEATTLE	387	691	604
SEATTLE-TACOMA	390	645	729
SPOKANE	563	965	797
STAMPEDE PASS R	756	1856	1710
WALLA WALLA U	353	514	419
YAKIMA	491	764	666
WEST VIRGINIA			
BECKLEY	479	565	526
CHARLESTON	357	378	313
ELKINS	503	601	615
HUNTINGTON	332	367	311
PARKERSBURG U	351	363	314
WISCONSIN			
GREEN BAY	544	773	757
LA CROSSE	488	651	578
MADISON	533	775	700
MILWAUKEE	485	646	631
WYOMING			
CASPER	492	710	795
CHEYENNE	511	756	808
SHERIDAN	526	846	837

COOLING DEGREE DAYS

(Base 65°F.)

OCTOBER 1977

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	25	2271	1925
HUNTSVILLE	13	1931	1808
MOBILE	85	2848	2551
MONTGOMERY	63	2574	2232
ALASKA			
ANCHORAGE	0	11	0
ANNETTE	0	60	14
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	8	0
BETTLES	0	90	17
BIG DELTA	0	65	34
COLD BAY	0	0	0
FAIRBANKS	0	98	52
GULKANA	0	5	9
HOMER	0	0	0
JUNEAU	0	1	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	19	0
MC GRATH	0	46	14
NOME	0	21	0
ST. PAUL ISLAND	0	0	0
TALKEETNA	0	8	6
UNALAKLEET	0	22	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	191	141
PHOENIX	434	4447	3482
TUCSON	266	3076	2784
WINSLOW	21	1248	1203
YUMA	429	4171	4126
ARKANSAS			
FORT SMITH	40	2259	2022
LITTLE ROCK	40	2252	1925
CALIFORNIA			
BAKERSFIELD	211	2737	2173
BISHOP	1	1176	1037
BLUE CANYON	2	475	302
EUREKA U	0	0	0
FRESNO	106	1948	1671
LONG BEACH	180	1216	962
LOS ANGELES	63	535	592
LOS ANGELES	148	1210	1141
MT SHASTA R	0	373	286
OAKLAND	11	163	128
RED BLUFF	86	2068	1904
SACRAMENTO	40	1014	1159
SANDBERG R	64	856	800
SAN DIEGO	128	873	709
SAN FRANCISCO	5	88	108
SAN FRANCISCO	8	52	39
SANTA MARIA	7	58	84
STOCKTON	95	1677	1259
COLORADO			
ALAMOSA	0	65	88
COLORADO SPRINGS	0	438	461
DENVER	0	739	625
GRAND JUNCTION	10	1542	1140
PUEBLO	0	1145	981
CONNECTICUT			
BRIDGEPORT	5	791	735
HARTFORD	1	915	584
DELAWARE			
WILMINGTON	0	1115	992
DIST. OF COLUMBIA			
WASHINGTON DULLES	3	1159	940
WASHINGTON NATIONAL	18	1747	1415
FLORIDA			
APALACHICOLA	108	2493	2609
DAYTONA BEACH	212	3038	2774
FORT MYERS	293	3145	3429
JACKSONVILLE	110	2649	2530
KEY WEST	419	4672	4365
LAKELAND U	240	3227	3109
MIAMI	364	3727	3650
ORLANDO	257	3097	3041
PENSACOLA	119	2010	2659
TALLAHASSEE	73	2445	2532
TAMPA	258	3278	3177
WEST PALM BEACH	329	3443	3450
GEORGIA			
ATHENS	24	1967	1722
ATLANTA	17	1744	1589
AUGUSTA	34	2230	1990
COLUMBUS	45	2554	2137
MACON	40	2499	2284
ROME	19	2009	1615
SAVANNAH	74	2595	2295
HAWAII			
HILO	374	3285	2606
HONOLULU	507	4168	3606
KAHULUI	440	3519	3187
LIHUE	450	3528	3180
IDAHO			
BOISE	0	822	714
LEWISTON	0	1012	657
POCATELLO	0	519	437
ILLINOIS			
CAIRO U	14	2197	1806
CHICAGO O HARE	0	1108	664
CHICAGO MIDWAY	0	1216	925
MOLINE	0	1068	893
PEORIA	0	1110	968
ROCKFORD	0	847	714
SPRINGFIELD	0	1368	1116
INDIANA			
EVANSVILLE	6	1763	1364
FORT WAYNE	0	1028	748
INDIANAPOLIS	0	1357	974
SOUTH BEND	0	992	695
IOWA			
BURLINGTON	0	1129	994
DES MOINES	1	1342	928
DUBUQUE	0	685	606
SIOUX CITY	0	862	932
WATERLOO	0	673	675
KANSAS			
CONCORDIA	4	1376	1302
DODGE CITY	25	1854	1411
GOODLAND	0	887	925
TOPEKA	14	1563	1361
WICHITA	24	1841	1673
KENTUCKY			
COVINGTON	4	1229	1080
LEXINGTON	8	1569	1197
LOUISVILLE	5	1697	1268
LOUISIANA			
BATON ROUGE	121	2718	2563
LAKE CHARLES	167	2689	2699
NEW ORLEANS	151	2890	2663
SHREVEPORT	119	2433	2524
MAINE			
CARIBOU	0	223	128
PORTLAND	0	306	252
MARYLAND			
BALTIMORE	7	1464	1108
MASSACHUSETTS			
BLUE HILL OBS R	0	583	457
BOSTON	6	897	661
WORCESTER	0	425	387
MICHIGAN			
ALPENA	0	257	208
DETROIT	0	1053	743
DETROIT METRO	0	873	654
FLINT	0	656	438
GRAND RAPIDS	0	714	575
HOUGHTON LAKE	0	354	250
LANSING	0	719	535
MARQUETTE U	0	229	216
MUSKEGON	0	520	469
SAULT STE MARIE	0	86	139
MINNESOTA			
DULUTH	0	122	176
INTERNATIONAL FALLS	0	187	176
MINNEAPOLIS	0	691	585
ROCHESTER	0	546	474
ST CLOUD	0	428	426
MISSISSIPPI			
JACKSON	47	2515	2306
MERIDIAN	59	2470	2224
MISSOURI			
COLUMBIA REGIONAL	4	1423	1269
KANSAS CITY	11	1403	1420
ST JOSEPH	7	1418	1334
ST LOUIS	4	1667	1475
SPRINGFIELD	15	1692	1382
MONTANA			
BILLINGS	0	545	498
GLASGOW	0	321	438
GREAT FALLS	0	293	339
HAVRE	0	371	395
HELENA	0	225	256
KALISPELL	0	129	117
MILES CITY	0	685	752
MISSOULA	0	295	188
NEBRASKA			
GRAND ISLAND	0	1105	1036
LINCOLN	0	1250	1148
NORFOLK	0	1034	925
NORTH PLATTE	0	720	802
OMAHA	0	1362	1173
OMAHA (NORTH) WSFO	0	1095	949
SCOTTSBLUFF	0	945	660
VALENTINE	0	732	736
NEVADA			
ELKO	0	636	342
ELY	0	198	207
LAS VEGAS	210	3329	2940
RENO	0	500	329
WINNEMUCCA	0	741	407
NEW HAMPSHIRE			
CONCORD	0	488	349
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	7	1016	864
ATLANTIC CITY U	10	1037	835
NEWARK	1	1208	1024
TRENTON U	2	1160	968
NEW MEXICO			
ALBUQUERQUE	7	1335	1316
CLAYTON	3	988	767
ROSWELL	46	2428	1560
NEW YORK			
ALBANY	0	574	574
BINGHAMTON	0	434	369
BUFFALO	0	573	437
NEW YORK U	0	1263	1068
NEW YORK KENNEDY	0	886	961
NEW YORK LA GUARDIA	0	1097	1048
ROCHESTER	0	661	531
SYRACUSE	0	520	551
NORTH CAROLINA			
ASHEVILLE	7	1006	872
CAPE HATTERAS R	57	1915	1543
CHARLOTTE	27	1893	1596
GREENSBORO	9	1626	1341
RALEIGH	25	1682	1394
WILMINGTON	56	2254	1958
NORTH DAKOTA			
BISMARCK	0	367	487
FARGO	0	487	473
WILLISTON	0	410	422
OHIO			
AKRON	0	892	634
CINCINNATI ABBE OB	4	1414	1188
CLEVELAND	0	694	613
COLUMBUS	0	1066	809
DAYTON U	0	1196	936
MANSFIELD	0	759	818
TOLEDO	0	784	685
YOUNGSTOWN	0	704	518
OKLAHOMA			
OKLAHOMA CITY	49	2161	1876
TULSA	38	2334	1949
OREGON			
ASTORIA	0	18	13
BURNS U	0	451	289
EUGENE	0	251	239
MEDFORD	0	837	562
PENDLETON	0	725	656
PORTLAND	0	375	300
SALEM	0	261	232
SEXTON SUMMIT R	0	291	137
PACIFIC AREA			
GUAM TAGUAC R	442	4225	4166
JOHNSTON	528	4383	4266
KOROR R	551	5219	4996
KWAJALEIN	547	5285	5148
MAJURO	506	4951	4919
PAGO PAGO	472	4726	4413
PONAPE R	505	5098	4709
TRUK MOEN ISLAND	538	5188	4894
WAKE	502	4595	4571
YAP R	512	4905	4925
PENNSYLVANIA			
ALLENTOWN	1	981	772
ERIE	0	449	373
HARRISBURG	1	1050	1025
PHILADELPHIA	3	1231	1104
PITTSBURGH	0	619	647
SCRANTON	0	563	608
WILLIAMSPORT	0	857	698
RHODE ISLAND			
BLOCK ISLAND	0	491	359
PROVIDENCE	0	821	537
SOUTH CAROLINA			
CHARLESTON	71	2512	2068
CHARLESTON U	79	2749	2325
COLUMBIA	29	2155	2082
GRNVLLE-SPRTNBRG	34	1936	1573
SOUTH DAKOTA			
ABERDEEN	0	580	566
HURON	0	795	711
RAPID CITY	0	574	661
SIOUX FALLS	0	854	719
TENNESSEE			
BRISTOL	2	1209	1107
CHATTANOOGA	15	2092	1636
KNOXVILLE	14	1801	1569
MEMPHIS	41	2661	2029
NASHVILLE	13	2004	1694
OAK RIDGE	7	1252	1367
TEXAS			
ABILENE	122	2622	2457
AMARILLO	22	1700	1433
AUSTIN	227	3094	2875
BROWNSVILLE	384	3758	3669
CORPUS CHRISTI	342	3568	3359
DALLAS FT WORTH	112	3009	2576
DEL RIO	239	3319	3341
EL PASO	43	2240	2098
GALVESTON	254	2884	2927
HOUSTON INTERCON	173	2670	2840
LUBBOCK	36	2027	1647
MIDLAND	112	2763	2245
PORT ARTHUR	235	3178	2750
SAN ANGELO	183	2957	2689
SAN ANTONIO	218	2947	2967
VICTORIA	259	3157	3074
WACO	224	3405	2847
WICHITA FALLS	88	2641	2605
UTAH			
MILFORD	0	722	688
SALT LAKE CITY	0	1108	927
VERMONT			
BURLINGTON	0	507	396
VIRGINIA			
LYNCHBURG	9	1305	1100
NORFOLK	24	1906	1441
RICHMOND	24	1787	1353
ROANOKE	4	1457	1030
WALLOPS ISLAND	16	1316	1107
WASHINGTON			
OLYMPIA	0	109	101
QUILLAYUTE	0	17	8
SEATTLE	0	175	183
SEATTLE-TACOMA	0	232	129
SPOKANE	0	472	388
STAMPEDE PASS R	0	101	16
WALLA WALLA U	0	977	862
YAKIMA	0	639	479
WEST INDIES			
SAN JUAN P.R.	532	4649	4205
WEST VIRGINIA			
BECKLEY	0	605	490
CHARLESTON	4	1215	1055
ELKINS	0	481	389
HUNTINGTON	4	1354	1098
PARKERSBURG U	5	1207	1045
WISCONSIN			
GREEN BAY	0	534	386
LA CROSSE	0	776	695
MADISON	0	622	460
MILWAUKEE	0	564	450
WYOMING			
CASPER	0	491	458
CHEYENNE	0	252	327
LANDER	0	410	383
SHERIDAN	0	316	446

STORM SUMMARY

OCTOBER 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				ICE STORMS				◊ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS			PROPERTY	CROPS
Alabama	1	1			4																							2	
Alaska										1		6																5	
Arizona								2	3			5	5															[illegible]	6
Arkansas																													
California *																													
Colorado *																													
Connecticut												4				5													
Delaware												5																	
Florida	3	2			3																								
Georgia																													3
Hawaii *																													
Idaho *																													
Illinois											1	5	[illegible]			[illegible]													
Indiana	2	1	1	2	5																								
Iowa														1	2														
Kansas								5	4			5																	5
Kentucky	5	1		16	6							7	5															[illegible]	5
Louisiana	1	1			4							6																	
Maine												4	3																
Maryland & DC												5																	
Massachusetts												5			1	2													
Michigan												3																	C
Minnesota *																													
Mississippi	1	1			3			[illegible]	[illegible]			3	2				[illegible]											2	
Missouri																													
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire *																													
New Jersey																													
New Mexico *																													
New York																													7
North Carolina	1	1			5																							[illegible]	
North Dakota																	3												
Ohio	5	2		17	7							5				4													
Oklahoma *																													
Oregon																										1			
Pacific *																													
Pennsylvania												5	2			4				6	3							2	
Puerto Rico																										3		1	
Rhode Island												1																	
South Carolina												4				2												[illegible]	[illegible]
South Dakota *																													
Tennessee	5	2		13	6																						[illegible]	7	
Texas															1	4													
Utah *																													
Vermont																												[illegible]	6
Virginia	1	1			4							5																	
Virgin Islands																												6	
Washington *																													
West Virginia *																													
Wisconsin											[illegible]	5	2																
Wyoming *																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

OCTOBER 1977

Herbert J. Thompson, Office of Hydrology

Several significant flood events occurred during October. In the Ohio River Basin losses along the Wabash River were estimated at $5.5 million, and widespread small stream and flash flooding occurred in the headwaters of the Tennessee, Cumberland, and Kentucky Rivers. Record flooding was reported on the Santa Cruz River and major flooding on the San Pedro River in southern Arizona with losses estimated at more than $13 million. Severe flash flooding occurred in the Virgin Islands with losses of $2 million.

Scattered minor flooding occurred in Maine and New England. A near record stage was reported on Schoharie Creek in southern New York and moderate flooding in the headwaters of the Susquehanna River. Severe urban and flash flooding was reported in Stanley County, North Carolina, with minor to moderate flooding on several larger streams in the Southeast. Scattered minor flooding also occurred in the eastern Gulf of Mexico Drainage, the upper Mississippi Basin in Iowa and Illinois, southern Texas, Puerto Rico, and on the Cache River in Arkansas and the Big Black River in Mississippi. Moderate flooding recurred in the lower Missouri Basin with crests generally lower than those of September. Severe urban flooding was reported in Oakdale, LA.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE		
October precipitation was well above normal throughout New England and Maine. Monthly totals ranged from 150 to over 250% of normal. At Portland, ME, the total of 8.26 inches was the second highest in 107 years of record. Stream flows were high with the United States Geological Survey reporting record October flows on the Little Androscoggin, Piscataquis, and St. Johns Rivers in Maine and the Pemigawassett River in New Hampshire. The Pemigawassett crested 2 feet over flood stage at Plymouth, NH, on the 10th. Minor flooding was reported on the Kennebec River in Maine, the Connecticut River at Hartford, CT, and on Otter Creek at Center Rutland, VT (in the St. Lawrence Drainage).	0	N.A.
Heavy rain on the night of the 16th-17th in south central New York caused significant flooding. Prattsville, NY, received 3.9 inches. The most serious flooding was along Schoharie Creek which crested 4 feet over flood stage at Middleburg, NY. This is the highest stage of record except for that caused by Hurricane Hazel in 1955. A number of villages had to be evacuated. Considerable damage also occurred in neighboring Otsego and Delaware Counties from flash flooding along Schenevus and Charlotte Creeks and the West Branch of the Delaware. Minor flooding occurred along the Mohawk River at Schenectady, NY. Minor to moderate flooding occurred in the headwaters of the Susquehanna River. Crests 3 to 7 feet over flood stage were reported on the Susquehanna from Unadilla to Vestal, NY. These crests were augmented by more rain on the 19th at Conklin and Vestal. Minor flooding occurred on the Unadilla and Chenango Rivers.	0	N.A.
Urban and small stream flooding occurred in central Virginia on the 26th-27th. Rainfall amounts ranged up to the 5.7 inches reported at Petersburg and Hopewell. Richmond received 4.4 inches.	0	N.A.
Severe flash and urban flooding occurred in the Piedmont area of North Carolina on the 25th-26th. Rainfall was generally in the range of 3-5 inches with amounts of over 6 inches reported. Amounts of up to 5 inches occurred over the area on the 13th-14th. Losses in Stanley County were estimated at more than $500,000, while adjacent counties received lesser damages. Minor	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

OCTOBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
flooding was reported on the Dan, Cape Fear, and South Fork Catawba Rivers.		
Rainfall amounts from the storm of the 25th-26th were generally in the range 3.5 to 5 inches over South Carolina with a maximum of 6.3 inches reported. Small stream flooding was reported in headwater areas. Reservoir storage reduced crests on some streams, including the Saluda, Santee, and Wateree Rivers, although minor flooding occurred around Lake Wateree. The Pee Dee River crested 5 feet over flood stage at Cheraw and the Broad and Congaree Rivers crested about 3 feet over flood stage at Blair and near St. Matthews, respectively. Minor flooding occurred on the Reedy River at Greenville.	0	N.A.
EAST GULF OF MEXICO DRAINAGE		
The storm of the 25th produced rainfall amounts varying from 1 to over 5 inches with minor flooding in areas of heaviest rain. Streams affected included Peachtree Creek at Atlanta, the lower Black Warrior River in Alabama, the East Fork of the Tombigbee at Fulton, MS, and the lower Pearl River at Bogalusa, LA. Minor flooding also occurred on Peachtree Creek on the 9th when Atlanta reported a storm total of over 2 inches of rain. Urban flooding was reported in the Birmingham, AL, area on the 9th with some homes evacuated.	0	N.A.
UPPER MISSISSIPPI BASIN		
October rainfall was generally above normal throughout the basin. Monthly totals showed departures of 4 to 6 inches above normal in northeastern, southeastern, and north central Minnesota with no flooding reported. Recovery from drought conditions of the previous two years continued and was particularly noticeable in the upper and middle Wisconsin River Basin, where hydro power generation showed significant improvement and in Iowa where the average of 17.08 inches for the August through October period was the greatest three-month total in 105 years of record and some flooding occurred. About 2 feet of flooding was reported on the South Skunk River near Oskaloosa, IA on the 1st and on the South River near Ackworth, IA, on the 24th. Cedar Creek crested 4 feet over flood stage near Bussey, IA, on the 24th. This was primarily agricultural flooding. In Illinois minor flooding occurred on the Green River at Geneseo on the 25th-26th and an extended period of minor flooding occurred on the lower Illinois River.	0	N.A.
MISSOURI BASIN		
Flooding occurred again during October in portions of the lower Missouri Basin as rainfall was above normal for the third consecutive month in northeast Kansas, southwest Iowa, and northwest Missouri. Crests were generally lower than those of September except on the Platte River which reached 11 feet over flood stage at Tracy, MO. Up to 3 feet of flooding occurred along the 102 River and more than 6 feet of flooding on the Little Platte. Four periods of minor flooding occurred on upper Stranger Creek in northeast Kansas with crests up to about 4 feet over flood stage. From 4 to 9 feet of flooding occurred	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI BASIN-Cont'd		
along the Grand River in northwest Missouri. About 40,000 acres of farmland were flooded near Chillicothe. The failure of a levee near Sumner destroyed 20 acres of corn. In general losses were light since most crops which were not destroyed by September flooding had been harvested.		
OHIO RIVER BASIN		
A violent rainstorm struck the Wabash Basin during the evening of September 30 and early on October 1. Rainfall amounts in a band from Danville, IL, to Brookville, IN, ranged from 3 to over 6 inches. Severe flooding occurred in the middle reach of the Wabash with the stage at Montezuma, IN, rising 11 feet in 24 hours. The crest at Montezuma was 7 feet over flood stage. The Corps of Engineers reported 52,000 acres flooded. Some savings from flood warnings below Terre Haute were reported as farmers were able to harvest crops which would have been destroyed. Although wind, rain, and hail damage was estimated at $20 million in Vermilion County, which was declared a disaster area by the Governor of Illinois, only minor flooding was reported on the Vermilion River.	0	5,530
Widespread small stream and flash flooding occurred on the 2d in southern West Virginia, eastern Kentucky, southwest Virginia, and northeast Tennessee. Rainfall ranged from 3 to over 6 inches. Flooding in the Evarts area of Harlan County, Kentucky, was reported more serious than that of the previous April. The Powell River reached more than 5 feet over flood stage at Jonesville, VA. Flooding occurred along the North and South Forks of the Halston River and the South Fork of the Powell River in the headwaters of the Tennessee Basin. The United States Geological Survey reported the highest stage in at least 20 years on Beaver Creek with serious flooding in Bristol, VA. They estimated the recurrence interval of the peak discharge at 75 years. Serious flooding also occurred in Kingsport, TN, and in Damascus, VA, where the peak discharge of Beaverdam Creek had a recurrence interval of more than 100 years. Many private bridges were destroyed along Doe Creek in Johnson County, Tennessee. Losses of $1.4 million were estimated in St. Charles, VA where 10 inches of water ran down the town's main street. About 5 feet of flooding occurred on the South Fork Kentucky River at Booneville, KY.	0	N.A.
The storm of the 25th-26th desposited amounts of 3 to 4 inches over portions of the upper Tennessee Basin. South Chickamauga Creek crested 2 feet over flood stage near Chattanooga and minor flooding occurred on the upper French Broad River in North Carolina.	0	N.A.
WEST GULF OF MEXICO DRAINAGE		
Locally heavy rain of more than 8 inches in 3 hours on the evening of the 23d caused urban flooding in Oakdale, LA. Up to 3 feet of water was reported in streets, stalling cars and disrupting telephone service. The school cafeteria was flooded. No stream flooding occurred due to the very localized nature of the rainfall.	0	N.A.
Heavy rainfall of about 4 to over 9 inches during the night of	0	100

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

OCTOBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
WEST GULF OF MEXICO DRAINAGE-Cont'd		
the 21st-22d over the headwaters of the Sabinal and Frio Rivers caused flooding along the two streams with a crest 2 feet over flood stage on the Frio River at Derby, TX. Losses to livestock, fences, roads, and bridges were estimated at $100,000.		
GULF OF CALIFORNIA DRAINAGE		
Record flooding occurred on the Santa Cruz River and major flooding on the San Pedro River in southern Arizona on the 9th-12th. Dissipating Hurricane Heather caused several days of rain over the headwaters of these streams on the 6th-10th, with the heaviest amounts on the 9th. Amounts for the five-day period totaled as much as 12.5 inches, with many reports of 6 to 10 inches. Major flash flooding also occurred in the area of heaviest rain. Major damage from stream flooding on the Santa Cruz occurred from Nogales to Cortaro. The town of Cibuta in Mexico was reportedly heavily damaged. Some record crests on the Santa Cruz River were:	0	13,400

Lochiel	10.3 ft	Oct. 9	9 a.m.
Continental	17.2 ft	Oct. 9	3 p.m.
Cortaro	15.5 ft	Oct. 10	11 a.m.

On the San Pedro crests were:

Palominas	16.04 ft	Oct. 9	12:45 p.m.
Charleston	10.6 ft	Oct. 9	2 p.m.
Winkelman	16.0 ft	Oct. 10	11 p.m.
Gila-Kelvin	20.47 ft	Oct. 10	4 a.m.

No flood stages have been established for these points. Many automobiles were damaged and the Nogales Pumping Station was flooded. The remaining water supply was contaminated by broken sewer lines. About 400 people were evacuated. Other losses included: 150 farms, $8.8 million; 160 residences, $290,000; 3 businesses, $300,000; railroads and utilities, $700,000; roads, $2.3 million; and golf courses, $300,000.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PUERTO RICO - VIRGIN ISLANDS		
Heavy rainfall on the 7th-8th over the eastern portions of these islands caused flash flooding on several rivers in Puerto Rico and substantial losses on St. Croix in the Virgin Islands. Record rainfall occurred on St. Croix with amounts of 10 to 13 inches reported between 8 p.m. on the 7th and sunrise on the 8th, while 24-hour totals ranged up to 16 inches with most stations on the island receiving 12 to 15 inches. These amounts are well in excess of the 100 year return period value for 24-hours duration. Most of the losses occurred on St. Croix with one drowning. The eastern portion of Puerto Rico received 4 to 5 inches of rain from this storm with flooding reported on the Mameyes, Espiritu, Santo, Fajardo, Maunabo Rivers and several smaller streams. The town of Yabucoa was flooded by the Guayanes River. There were two drownings on Puerto Rico. Losses for all flooded areas included: $1,250,000 to roads and bridges; $300,000 to agriculture; and $200,000 to cisterns.	3	2,000

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
	Ft			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Ontario					
Otter Creek:					
Center Rutland, VT	8	18	18	8.72	18
ATLANTIC SLOPE DRAINAGE					
Kennebec:					
Skowhegan, ME	35,000 c.f.s.	2	2	35,600	2
Pemigewasset:					
Plymouth, NH	11	9	10	12.9	10
Connecticut:					
Hartford, CT	16	18	20	16.72	20
Schoharie Creek:					
Middleburg, NY	14	17	18	18.01	17
Burtonsville, NY	6	17	18	8.33	17
Mohawk:					
Schenectady, NY	223	17	18	224.5	17
Beaverkill:					
Cooks Falls, NY	10	2	2	10.07	2
Unadilla:					
Rockdale, NY	11	17	18	11.61	18
Chenango:					
Sherbourne, NY	8	17	19	9.17	17
Susquehanna:					
Unadilla, NY	11	17	19	#14.07	18
Bainbridge, NY	13	17	21	20.40	18
Conklin, NY	11	17	21	16.27	19
Vestal, NY	18	17	21	21.17	19
Dan:					
Paces, VA	15	27	28	18.3	28
Danville, VA	11	27	27	11.0	27
Cape Fear:					
Elizabethtown, NC	20	29	29	20.5	29
Pee Dee:					
Cheraw, SC	30	27	28	35.01	27
Pee Dee, SC	19	29	1/	19.6	30
Broad:					
Blair, SC	14	26	28	17.4	27
Reedy:					
Greenville, SC (Westfield St. Gage)	8	25	26	9.53	26
Congaree:					
St. Matthews 17 NW, SC	115	27	29	117.7	28
South Fork Catawba:					
McAdenville, NC	10	26	26	10.3	26
Wateree:					
Wateree Reservoir, SC	100	26	28	101.6	27
EAST GULF OF MEXICO DRAINAGE					
Peachtree Creek:					
Atlanta, GA	13	9 25	9 25	15.09 14.36	9 25
East Fork Tombigbee:					
Fulton, MS	16	26	26	16.3	26
Black Warrior:					
Tuscaloosa Lock & Dam, AL	47	26	26	47.9	26
Warrior Lock & Dam, AL	30	27	28	33.2	28
Pearl:					
Bogalusa, LA	15	26	27	#15.79	26

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
	Ft.			Ft.	
UPPER MISSISSIPPI BASIN					
Green River:					
Geneseo, IL	8	25	26	9.06	25
South Skunk River:					
Oskaloosa, IA	15	1 25	[illegible] 25	16.8 15.2	1 25
South River:					
Ackworth, IA	19	24	24	21.0	24
Cedar Creek:					
Bussey, IA	16.5	24	25	20.5	24
Illinois River:					
Havana, IL	14	1	18	#15.1	11
Beardstown, IL	14	5	17	#15.3	11
MISSOURI RIVER BASIN					
One Hundred and Two River:					
Maryville, MO	14	24 31	24 1/	15.25 16.59	24 Nov 1
Rosendale, MO	13	24	25	16.00	24
Little Platte River:					
Smithville, MO	24	22 23	22 24	28.17 30.31	22 24
Platte River:					
Agency, MO	20	22 31	27 1/	26.50 25.28	24 Nov 1
Tracy, MO	18	23	30	29.2	26
Stranger Creek:					
Easton, KS	15	7 22 23 31	9 23 25 31	17.7 17.6 18.85 15.45	[illegible] 22 24 31
Tonganoxie, KS	22	23	25	23.4	24
Grand River:					
Gallatin, MO	21	24	26	25.22	26
Chillicothe, MO	24	24	28	31.0	25
Sumner, MO	26	23	30	34.86	27
Brunswick, MO	12	24	30	15.72	28
Big Creek:					
Blairstown, MO	20	31	31	20.05	31
OHIO BASIN					
Chadakoin:					
Falconer, NY	3.2	1	4	3.4	1
Vermilion:					
Danville, IL	18	2	3	#18.4	2
Sugar Creek:					
Crawfordsville, IN	8	1	2	8.65	1
Wabash:					
Covington, IN	16	1	4	17.8	3
Montezuma, IN	14	1	6	20.9	3
Clinton, IN	18	2	6	#20.2	3
Terre Haute, IN	14	2	7	17.4	5
Riverton, IN	15	4	8	16.8	7
French Broad:					
Rosman, NC	8	25	26	8.82	25
Blantyre, NC	17	26	27	17.1	27
Powell:					
Jonesville, VA	15	2	2	E20.5	2
Arthur, TN	15	3	3	E18.5	3
South Chickamauga Creek:					
Chickamauga, TN	10	26	28	12.0	27

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages —dates From—	To—	Crest Stage	Date
	Ft			*Ft*	
WHITE BASIN					
Cache:					
Patterson, AR	8	Sep [illegible]	[illegible]	[illegible]	[illegible]
LOWER MISSISSIPPI BASIN					
Big Black					
West, MS	[illegible]	[illegible]	16	Elev.[illegible]	16

River and station	Flood stage	Above flood stages —dates From—	To—	Crest Stage	Date
	Ft			*Ft*	
WEST GULF OF MEXICO DRAINAGE					
[illegible]					
[illegible], TX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Frio:					
Derby, TX [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

RAWINSONDE DATA

Average monthly values

OCTOBER 1977

ALBANY, NY
1007 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	86	6.0	4.5	31	1.0
1000	24	170	7.2	3.9	31	1.1
950	31	563	7.0	1.8	30	2.8
900	31	1,006	5.0	-.3	30	4.0
850	31	1,472	3.5	-5.3	29	4.9
800	31	1,963	2.2	-8.9	29	5.6
750	31	2,483	.2	-10.8	28	7.0
700	31	3,033	-2.3	-12.6	27	9.6
650	31	3,619	-4.8	-18.1	27	11.5
600	31	4,245	-8.1	-21.4	26	11.9
550	31	4,916	-12.3	-24.5	27	13.6
500	31	5,638	-16.6	-28.5	27	15.7
450	31	6,422	-21.8	-33.3	26	16.3
400	31	7,278	-28.2	-38.8	26	18.0
350	31	8,225	-35.0	-44.9	26	20.3
300	31	9,281	-42.3	-49.4	26	22.8
250	31	10,495	-49.3		26	23.5
200	31	11,939	-55.0		26	26.1
175	31	12,789	-56.5		26	24.3
150	31	13,765	-57.8		26	19.4
125	31	14,911	-59.4		26	17.7
100	31	16,304	-60.3		26	14.3
80	31	17,699	-59.0		26	8.9
70	31	18,540	-58.0		25	7.3
60	29	19,508	-57.7		25	6.2
50	28	20,660	-56.6		26	5.0
40	27	22,078	-56.0		26	2.6
30	26	23,913	-55.1		26	1.2
25	25	25,084	-54.3		26	2.0
20	25	26,518	-53.3		28	2.5
15	23	28,372	-51.4		28	5.0
10	16	30,991	-49.9		28	11.2
7						

ALBUQUERQUE, NM
840 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,619	8.9	.5	10	1.3
1000						
950						
900						
850						
800	31	2,031	11.6	-1.3	23	.8
750	31	2,568	9.1	-3.8	28	3.2
700	31	3,136	5.1	-6.8	28	4.6
650	31	3,737	1.3	-10.9	27	5.3
600	31	4,377	-2.[illegible]	-16.3	27	5.6
550	31	5,061	-7.0	-22.6	27	6.1
500	31	5,797	-12.0	-27.5	27	7.4
450	31	6,596	-17.2	-32.4	27	9.4
400	31	7,468	-23.7	-38.0	27	9.[illegible]
350	31	8,431	-31.2	-43.3	27	12.6
300	30	9,502	-39.[illegible]	-48.0	26	14.4
250	30	10,727	-48.0		27	18.8
200	30	12,171	-56.0		27	22.1
175	30	13,014	-59.4		27	24.3
150	30	13,970	-63.2		27	21.8
125	29	15,079	-66.9		27	18.5
100	29	16,418	-68.8		28	12.5
80	28	17,751	-67.4		29	8.1
70	28	18,562	-64.4		29	5.0
60	27	19,508	-61.9		29	3.4
50	27	20,644	-59.1		27	2.[illegible]
40	27	22,051	-57.2		28	1.9
30	26	23,882	-54.9		06	.4
25	26	25,051	-53.6		06	1.4
20	23	26,508	-51.5		09	1.[illegible]
15	22	28,382	-49.6		04	1.5
10	12	31,072	-46.3		34	2.1
7						

AMARILLO, TX
893 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,095	10.2	2.6	24	1.9
1000						
950						
900	5	1,111	6.4	-3.4		
850	31	1,514	13.6	1.9	25	4.4
800	31	2,023	11.8	-1.6	27	4.5
750	31	2,561	9.2	-5.4	27	4.7
700	31	3,129	5.5	-8.6	28	5.0
650	31	3,731	1.9	-12.8	28	5.0
600	31	4,372	-2.1	-16.6	28	[illegible].6
550	31	5,058	-6.2	-20.4	28	7.5
500	31	5,797	-11.3	-25.9	28	9.0
450	31	6,596	-17.0	-31.6	28	[illegible].5
400	31	7,469	-23.6	-36.2	28	10.6
350	31	8,434	-31.0	-41.9	28	14.0
300	31	9,505	-39.4	-44.1	28	16.9
250	30	10,729	-48.0		27	20.[illegible]
200	30	12,171	-56.4		27	25.0
175	30	13,012	-59.8		28	26.5
150	30	13,968	-63.0		28	24.7
125	30	15,081	-66.6		28	19.5
100	30	16,421	-69.0		28	15.0
80	30	17,758	-67.6		28	[illegible]
70	30	18,567	-64.6		28	5.4
60	30	19,517	-61.8		27	4.1
50	29	20,652	-59.1		27	3.2
40	28	22,059	-57.5		27	1.7
30	27	23,884	-55.4		03	.[illegible]
25	27	25,050	-54.2		04	1.6
20	27	26,488	-52.3		04	1.4
15	27	28,360	-49.9		32	1.2
10	22	31,033	-47.1		30	4.5
7	14	33,413	-44.1		28	[illegible].7

* ANCHORAGE, AK
991 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	45	2.7	-1.4	02	.9
1000	7	159	4.2	-2.4		
950	30	385	1.7	-3.3	03	2.2
900	30	820	.5	-4.2	09	2.6
850	30	1,277	-2.3	-6.2	11	4.8
800	30	1,756	-5.3	-8.4	13	6.9
750	30	2,260	-8.4	-12.2	14	7.8
700	30	2,793	-11.2	-16.1	16	8.2
650	30	3,358	-14.6	-19.8	16	8.3
600	30	3,960	-18.7	-23.7	17	8.[illegible]
550	30	4,603	-23.2	-28.5	17	7.7
500	30	5,294	-28.[illegible]	-33.4	17	7.[illegible]
450	30	[illegible],041	-33.7	-38.6	17	8.2
400	30	6,858	-39.6	-42.8	18	8.[illegible]
350	30	7,761	-45.9		19	10.1
300	29	8,775	-52.3		20	10.[illegible]
250	29	9,946	-54.3		21	11.1
200	29	11,385	-51.7		23	11.0
175	29	12,254	-50.8		23	10.2
150	29	13,259	-50.2		23	10.2
125	29	14,449	-50.5		23	10.3
100	29	15,904	-50.4		24	10.9
80	29	17,357	-51.2		24	10.0
70	29	18,225	-51.5		24	9.[illegible]
60	29	19,225	-52.[illegible]		25	9.[illegible]
50	29	20,405	-52.8		25	7.7
40	29	21,844	-53.1		26	8.[illegible]
30	28	23,699	-53.3		28	8.[illegible]
25	26	24,870	-53.1		28	6.[illegible]
20	24	26,308	-52.2		28	7.6
15	17	28,206	-51.2		30	6.7
10	9	30,903	-49.7			
7						

* ANNETTE, AK
1005 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	37	7.5	5.1	13	4.6
1000	21	132	7.4	3.8	14	4.7
950	31	499	4.9	2.0	16	9.1
900	31	939	1.9	-.7	17	10.0
850	31	1,397	-1.2	-4.4	19	10.2
800	31	1,879	-3.7	-7.1	19	10.7
750	31	2,387	-6.5	-11.4	20	11.5
700	31	2,923	-9.7	-15.3	21	11.9
650	31	3,492	-12.9	-20.9	21	12.3
600	31	4,098	-17.0	-25.6	21	12.8
550	31	4,745	-21.1	-28.7	22	12.8
500	31	5,443	-25.6	-33.5	22	13.9
450	30	6,198	-30.7	-37.5	23	14.3
400	30	7,025	-35.9	-42.2	24	14.9
350	30	7,944	-42.0	-42.9	25	15.9
300	29	[illegible],967	-48.5		26	16.9
250	28	10,159	-53.3		26	18.4
200	28	11,594	-53.2		25	16.5
175	27	12,453	-52.8		25	16.0
150	27	13,448	-52.9		25	15.3
125	26	14,616	-53.7		25	12.8
100	26	16,048	-54.7		25	10.2
80	26	17,474	-55.0		25	9.0
70	25	18,325	-54.7		25	7.5
60	25	19,309	-55.7		25	7.1
50	24	20,473	-56.3		25	6.1
40	24	21,892	-56.0		28	4.2
30	24	23,721	-56.0		24	2.8
25	23	24,886	-55.0		28	3.7
20	21	26,317	-54.2		30	2.7
15	17	28,164	-53.3		34	3.1
10	[illegible]	30,829	-51.7			
7						

ATHENS, GA
989 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	246	10.3	8.9	35	.7
1000						
950	31	583	12.9	6.0	02	1.4
900	31	1,036	10.8	4.3	33	1.3
850	31	1,512	8.6	-.3	29	3.2
800	31	2,012	7.3	-4.4	29	5.0
750	31	2,542	5.2	-9.3	29	5.9
700	31	3,102	2.4	-11.6	28	6.6
650	31	3,699	-.2	-15.6	28	7.9
600	31	4,335	-3.7	-20.1	28	9.2
550	31	5,017	-7.6	-23.0	28	11.0
500	31	5,752	-12.6	-27.1	28	12.3
450	31	6,548	-17.9	-31.4	28	14.2
400	31	7,418	-24.3	-36.7	28	16.1
350	31	8,381	-31.1	-43.2	28	18.2
300	30	9,462	-38.6	-48.8	28	20.4
250	30	10,692	-47.2		28	24.4
200	30	12,140	-55.3		28	27.5
175	30	12,986	-58.8		28	27.3
150	30	13,945	-62.4		28	25.2
125	30	15,064	-65.3		28	18.6
100	30	16,414	-67.0		27	13.[illegible]
80	30	17,766	-65.1		27	8.7
70	30	18,586	-62.2		26	6.8
60	29	19,543	-60.5		28	3.2
50	29	20,683	-59.1		26	2.1
40	29	22,085	-58.3		04	.5
30	29	23,908	-55.3		08	1.3
25	29	25,077	-53.3		08	1.8
20	29	26,522	-51.1		10	.5
15	27	28,402	-49.1		28	2.4
10	23	31,075	-46.0		28	5.6
7	6	33,367	-45.2			

* BARROW, AK
1008 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	8	-6.3	-8.0	07	5.0
1000	22	104	-5.3	-7.6	09	3.9
950	30	471	-9.4	-10.8	07	[illegible].5
900	30	889	-10.2	-12.8	08	4.6
850	30	1,329	-11.0	-16.4	09	4.5
800	30	1,793	-12.6	-18.4	09	4.4
750	30	2,285	-14.1	-20.7	10	3.5
700	30	2,806	-16.5	-23.3	11	[illegible].5
650	30	3,360	-19.2	-25.7	12	[illegible].0
600	30	3,952	-22.5	-30.4	15	2.1
550	30	4,586	-26.4	-35.1	17	2.9
500	30	5,269	-30.6	-40.3	18	3.5
450	30	6,009	-36.1	-44.1	19	4.[illegible]
400	30	6,816	-42.3	-47.7	20	4.3
350	30	7,710	-48.7		20	5.4
300	30	8,705	-55.2		21	6.[illegible]
250	30	9,858	-58.5		21	7.4
200	29	11,270	-53.8		21	6.8
175	27	12,122	-52.4		22	7.9
150	24	13,115	-51.[illegible]		22	8.[illegible]
125	20	14,294	-51.5		22	8.7
100	18	15,749	-51.6		23	9.6
80	18	17,196	-52.4		23	9.9
70	17	18,064	-52.7		24	10.7
60	13	19,084	-53.3		25	10.0
50	11	20,278	-54.1		25	10.5
40	9	21,662	-54.5			
30						
25						
20						
15						
10						
7						

BARTER ISLAND, AK
1005 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	15	-5.1	-7.1	09	2.8
1000	21	98	-3.7	-8.[illegible]	08	2.8
950	31	456	-5.5	-8.5	08	5.0
900	31	878	-7.4	-10.9	10	5.1
850	31	1,322	-9.2	-13.[illegible]	11	3.9
800	31	1,790	-10.4	-15.1	12	2.5
750	31	2,285	-12.0	-17.[illegible]	15	1.8
700	31	2,810	-14.7	-20.[illegible]	18	1.9
650	31	3,369	-17.4	-24.[illegible]	21	2.7
600	30	3,961	-21.1	-27.[illegible]	22	3.4
550	30	4,598	-25.2	-31.[illegible]	23	4.9
500	30	5,284	-30.0	-36.8	23	[illegible].0
450	30	6,026	-35.1	-40.0	24	7.3
400	30	6,837	-41.2	-44.8	24	[illegible].2
350	30	7,734	-47.5		24	9.7
300	30	8,735	-52.9		24	11.2
250	30	9,893	-57.5		23	11.3
200	30	11,314	-53.6		24	10.2
175	29	12,175	-52.2		24	10.2
150	29	13,175	-51.4		24	10.0
125	29	14,361	-51.0		24	10.8
100	29	15,813	-51.2		24	11.1
80	28	17,263	-52.1		25	11.7
70	28	18,127	-52.6		25	12.5
60	28	19,121	-53.2		25	12.8
50	28	20,295	-53.3		25	13.1
40	28	21,728	-54.5		26	14.[illegible]
30	27	23,569	-54.9		27	15.[illegible]
25	25	24,746	-55.4		27	16.2
20	24	26,175	-55.2		27	18.[illegible]
15	23	28,021	-55.4		28	20.2
10	15	30,639	-55.0		29	19.3
7						

BETHEL, AK
995 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	39	-3.1	-5.3	36	1.3
1000	10	103	-.6	-4.0	08	1.3
950	31	403	-2.6	-5.8	01	2.0
900	31	830	-4.3	-9.0	36	2.2
850	31	1,279	-6.3	-12.5	34	[illegible].0
800	31	1,752	-8.4	-16.0	34	1.8
750	31	2,250	-11.1	-18.6	33	1.7
700	31	2,777	-14.2	-23.3	29	1.3
650	31	3,336	-17.3	-26.5	27	1.0
600	31	3,932	-20.8	-28.6	24	1.9
550	31	4,570	-25.0	-32.7	23	3.1
500	31	[illegible],256	-29.[illegible]	-37.6	23	3.8
450	31	5,999	-35.1	-41.4	22	4.6
400	31	6,810	-40.8	-44.6	21	6.[illegible]
350	31	7,709	-46.9		21	7.8
300	31	8,715	-52.3		23	8.4
250	31	9,889	-53.3		23	8.3
200	31	11,338	-50.0		24	8.7
175	31	12,211	-49.9		25	9.1
150	30	13,226	-49.6		24	9.7
125	29	14,430	-49.6		25	10.1
100	29	15,892	-49.4		25	9.7
80	29	17,350	-50.7		25	9.2
70	29	18,220	-50.9		24	9.5
60	28	19,217	-51.0		25	9.6
50	28	20,404	-51.0		26	8.9
40	27	21,854	-51.7		26	8.[illegible]
30	25	23,711	-51.5		26	7.8
25	23	24,882	-51.1		26	[illegible].2
20	22	26,332	-50.[illegible]		27	9.4
15	18	28,202	-49.8		27	10.6
10						
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* BISMARCK, ND
957 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	503	3.8	.0	21	.2
1000						
950	28	578	5.2	-.1	24	.3
900	31	1,011	7.1	-2.1	27	3.0
850	31	1,480	5.3	-5.1	28	4.2
800	31	1,973	3.1	-8.4	30	5.4
750	31	2,494	.5	-10.8	30	6.5
700	31	3,044	-2.4	-14.7	30	7.5
650	31	3,630	-5.5	-17.7	29	9.4
600	31	4,253	-9.2	-21.4	29	10.4
550	31	4,921	-13.5	-25.7	29	11.2
500	31	5,640	-18.1	-29.1	29	12.8
450	31	6,420	-23.1	-33.[illegible]	29	15.9
400	31	7,271	-29.5	-39.[illegible]	29	16.1
350	31	[illegible],213	-36.7	-44.5	29	17.8
300	31	9,260	-44.8		29	19.6
250	31	10,458	-52.5		29	21.1
200	31	11,887	-56.2		29	22.0
175	31	12,734	-56.8		29	21.5
150	31	13,709	-57.9		29	19.8
125	31	14,855	-59.8		28	17.0
100	30	16,249	-6[illegible].2		29	13.1
80	29	17,647	-59.7		28	9.0
70	28	18,483	-59.4		29	7.9
60	28	19,449	-58.7		28	6.2
50	27	20,594	-58.7		28	5.2
40	27	21,999	-57.5		27	4.7
30	25	23,821	-55.5		28	5.0
25	25	24,986	-54.8		27	5.2
20	25	26,417	-53.9		27	7.1
15	19	28,279	-52.9		27	9.4
10	10	30,925	-50.9			
7						

BOISE, ID
918 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	871	6.9	-.8	13	2.2
1000						
950						
900	31	1,032	10.6	-.3	14	1.3
850	31	1,509	10.3	-2.9	24	.5
800	31	2,011	7.4	-4.9	27	1.4
750	31	2,539	4.2	-7.6	26	4.0
700	31	3,096	.4	-10.1	26	6.0
650	31	3,687	-3.1	-14.2	26	7.3
600	31	4,316	-7.1	-19.6	26	9.1
550	31	4,989	-11.4	-23.5	26	10.7
500	31	5,714	-16.1	-28.8	26	12.1
450	31	6,499	-21.3	-33.8	26	14.2
400	31	7,357	-27.6	-39.4	26	16.1
350	31	8,307	-34.4	-45.4	26	16.7
300	31	9,364	-42.8	-49.9	26	17.6
250	31	10,571	-51.3		26	19.1
200	30	12,000	-57.2		26	19.5
175	30	12,842	-58.6		27	19.7
150	30	13,807	-60.4		26	18.8
125	30	14,939	-61.9		26	16.7
100	30	16,315	-63.0		27	13.9
80	30	17,692	-61.9		27	9.0
70	30	18,521	-61.1		27	7.6
60	30	19,480	-60.4		27	6.3
50	30	20,619	-59.1		28	4.6
40	29	22,017	-58.5		28	4.6
30	29	23,835	-56.5		28	3.7
25	27	24,998	-55.0		28	4.3
20	26	26,432	-53.6		27	5.7
15	24	28,292	-51.9		28	5.6
10	9	31,026	-47.5			
7						

BOOTHVILLE, LA
1018 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1	19.6	16.4	02	2.2
1000	31	150	20.0	15.2	04	2.8
950	31	592	16.[illegible]	12.4	06	2.2
900	31	1,052	15.0	7.4	01	.5
850	31	1,535	13.0	4.3	30	2.[illegible]
800	31	2,044	11.5	.0	31	3.6
750	31	2,581	9.4	-4.[illegible]	30	4.1
700	31	3,151	6.6	-8.0	30	5.3
650	31	3,756	3.2	-10.6	30	[illegible].5
600	31	4,400	-.2	-14.4	29	7.8
550	31	5,091	-4.3	-18.6	29	9.0
500	31	5,836	-9.1	-23.3	29	11.0
450	31	6,643	-14.6	-28.9	29	12.8
400	31	7,525	-20.7	-33.7	28	15.1
350	31	8,502	-27.8	-39.8	28	17.[illegible]
300	31	9,588	-36.2	-46.6	28	21.[illegible]
250	31	10,827	-45.8		28	24.2
200	31	12,280	-56.0		28	27.7
175	31	13,119	-61.3		28	28.1
150	31	14,064	-66.4		28	25.1
125	31	15,157	-70.3		28	21.[illegible]
100	31	16,473	-72.6		28	12.4
80	30	17,794	-69.1		28	6.9
70	30	18,599	-65.3		27	3.7
60	30	19,543	-63.0		16	.7
50	30	20,673	-60.6		13	.9
40	29	22,066	-58.5		06	1.7
30	29	23,888	-55.1		08	2.9
25	29	25,059	-52.9		09	4.[illegible]
20	29	26,506	-50.8		08	4.[illegible]
15	29	28,391	-48.2		06	1.5
10	25	31,088	-43.4		33	2.2
7						

* BROWNSVILLE, TX
1015 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	7	20.7	18.[illegible]	11	.7
1000	31	137	23.7	19.8	13	2.0
950	31	584	20.7	17.5	15	4.4
900	31	1,051	18.1	13.0	15	3.9
850	31	1,539	15.9	6.9	15	3.0
800	31	2,053	14.1	2.[illegible]	14	2.3
750	31	2,595	11.5	-1.3	16	1.1
700	31	3,169	8.7	-3.7	27	1.1
650	31	3,779	5.0	-5.[illegible]	28	2.2
600	31	4,427	.8	-9.[illegible]	29	4.[illegible]
550	31	5,121	-3.1	-16.7	29	5.3
500	31	5,869	-7.8	-23.3	28	6.[illegible]
450	31	6,680	-13.0	-28.[illegible]	26	7.7
400	30	7,567	-19.5	-32.2	26	9.7
350	29	8,550	-26.4	-38.5	26	13.[illegible]
300	29	9,643	-34.8	-46.8	26	15.7
250	29	10,891	-44.3		27	19.5
200	29	12,351	-55.2		27	22.5
175	28	13,187	-61.6		27	22.1
150	28	14,126	-68.6		27	20.2
125	28	15,203	-74.2		27	15.3
100	28	16,493	-75.9		28	[illegible].5
80	27	17,794	-72.0		31	2.8
70	27	18,590	-67.3		30	1.[illegible]
60	27	19,527	-64.4		10	2.4
50	27	20,649	-62.0		11	4.0
40	25	22,043	-58.7		08	3.9
30	23	23,862	-56.2		08	6.[illegible]
25	23	25,025	-54.3		08	8.0
20	22	26,473	-50.4		08	8.1
15	20	28,365	-46.3		08	5.2
10	18	31,084	-41.2		08	2.5
7						

BUFFALO, NY
992 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	218	7.1	4.5	24	1.1
1000	6	237	5.6	.0		
950	31	571	7.4	3.4	27	2.[illegible]
900	31	1,015	5.4	.2	28	4.[illegible]
850	31	1,481	3.2	-3.5	28	4.9
800	31	1,971	1.2	-8.2	28	[illegible].5
750	31	2,488	-.7	-11.7	28	7.0
700	31	3,038	-2.7	-14.7	28	7.7
650	31	3,622	-5.6	-17.7	28	8.7
600	31	4,247	-8.7	-21.3	28	9.3
550	31	4,916	-12.9	-24.5	28	10.7
500	31	5,637	-17.2	-28.8	27	12.4
450	31	6,419	-22.2	-33.1	27	13.4
400	31	7,274	-28.5	-38.9	26	14.9
350	31	8,220	-35.5	-44.5	26	17.1
300	31	9,273	-43.1	-49.7	26	20.3
250	31	10,481	-50.1		26	21.1
200	31	11,921	-55.1		27	19.9
175	31	12,773	-55.7		27	19.[illegible]
150	31	13,751	-57.3		27	16.7
125	31	14,899	-58.8		27	15.3
100	31	16,296	-59.6		27	12.9
80	31	17,693	-59.1		26	9.7
70	31	18,532	-58.0		26	8.4
60	31	19,506	-57.0		26	6.6
50	31	20,662	-56.3		26	4.[illegible]
40	30	22,080	-55.[illegible]		26	3.9
30	27	23,910	-54.[illegible]		27	3.5
25	26	25,076	-54.0		27	3.1
20	26	26,512	-53.2		28	3.1
15	21	28,366	-51.9		28	5.1
10	8	31,067	-47.2			
7						

CAPE HATTERAS, NC
1016 MB

Standard pressure surface	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	4	15.7	12.9	36	2.2
1000	31	141	16.6	11.3	36	3.7
950	31	577	14.0	8.6	34	3.3
900	31	1,032	11.6	[illegible]	28	2.7
850	31	1,508	9.3	2.1	25	4.0
800	31	2,010	7.3	-2.6	24	4.8
750	31	2,539	5.3	-7.8	25	7.3
700	31	3,100	2.6	-10.4	25	9.2
650	31	3,697	-.2	-15.2	25	10.4
600	31	4,333	-3.5	-19.5	25	10.9
550	31	5,016	-7.8	-21.9	25	12.0
500	31	5,751	-12.4	-27.3	25	14.0
450	30	6,552	-17.7	-31.8	25	16.9
400	30	7,423	-23.9	-37.1	25	19.2
350	30	8,387	-30.9	-42.4	25	21.0
300	30	9,460	-38.8	-45.[illegible]	25	21.6
250	29	10,683	-47.7		25	22.2
200	29	12,130	-55.8		26	23.9
175	29	12,974	-58.8		26	22.6
150	29	13,935	-61.6		26	19.7
125	28	15,062	-64.7		26	17.2
100	28	16,421	-65.4		26	12.0
80	27	17,789	-63.7		26	6.8
70	27	18,611	-62.0		25	5.7
60	27	19,570	-6[illegible].4		25	4.3
50	27	20,709	-58.8		26	2.2
40	27	22,115	-57.5		05	1.3
30	26	23,944	-54.9		08	3.1
25	25	25,112	-53.4		09	3.3
20	25	26,557	-51.2		10	2.8
15	21	28,441	-49.2		34	.8
10	14	31,119	-45.8			
7	[illegible]	33,564	-44.3			

RAWINSONDE DATA

Average monthly values

OCTOBER 1977

• CARIBOU, ME
992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	191	3.8	1.2	27	1.6
1000	7	222	-.3	-4.5		
950	31	539	4.3	.9	30	3.9
900	31	978	2.2	-2.1	30	4.8
850	31	1,439	.9	-4.0	29	6.3
800	31	1,926	.2	-6.9	28	6.9
750	31	2,442	-1.6	-10.4	27	7.9
700	31	2,989	-4.1	-13.1	27	9.6
650	31	3,571	-7.3	-17.5	27	11.1
600	30	4,192	-11.0	-23.2	27	13.4
550	30	4,855	-15.1	-26.6	27	14.8
500	30	5,569	-19.6	-31.8	27	16.8
450	30	6,344	-24.8	-36.3	26	19.4
400	30	7,191	-30.6	-40.0	26	23.4
350	30	8,130	-37.0	-45.0	26	28.3
300	30	9,178	-43.7	-4[illegible].3	25	28.1
250	30	10,386	-49.9		26	28.9
200	30	11,831	-53.6		26	25.9
175	28	12,680	-55.1		26	23.6
150	28	13,664	-55.3		26	20.7
125	28	14,823	-56.9		27	16.7
100	28	16,236	-57.1		26	13.[illegible]
80	27	17,648	-56.9		26	10.2
70	27	18,495	-56.0		26	9.6
60	26	19,469	-55.9		26	7.4
50	26	20,630	-55.7		26	7.3
40	25	22,060	-55.2		27	6.3
30	24	23,899	-55.0		26	7.1
25	21	25,057	-54.8		27	9.1
20	20	26,489	-54.0		27	9.8
15	14	28,318	-54.1		27	11.7
10	6	30,819	-54.1			
7						

CENTREVILLE, AL
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	140	11.5	9.8	01	1.3
1000	19	181	10.8	6.6	03	1.6
950	31	592	13.8	6.1	03	1.6
900	31	1,046	11.5	2.5	33	1.7
850	31	1,524	10.3	-2.7	31	3.2
800	31	2,027	8.6	-4.9	30	4.6
750	31	2,559	6.5	-7.9	30	5.7
700	31	3,122	4.0	-12.7	29	7.6
650	31	3,722	1.2	-15.8	28	8.4
600	31	4,361	-2.5	-18.6	28	[illegible].5
550	31	5,046	-6.7	-22.2	28	11.6
500	31	5,783	-11.3	-26.9	28	13.3
450	30	6,584	-16.8	-31.4	28	14.6
400	30	7,458	-23.0	-36.3	28	16.9
350	30	8,425	-30.3	-42.5	28	19.3
300	30	9,501	-38.1	-49.3	28	21.2
250	30	10,732	-46.9		28	24.4
200	30	12,181	-55.7		28	29.1
175	30	13,024	-59.8		28	28.4
150	30	13,977	-63.[illegible]		28	25.4
125	29	15,085	-66.7		28	21.2
100	29	16,425	-68.5		28	14.0
80	29	17,767	-66.2		27	8.9
70	29	18,582	-63.2		27	6.2
60	29	19,537	-60.8		27	3.4
50	29	20,674	-59.[illegible]		25	.7
40	29	22,073	-58.3		10	.5
30	29	23,899	-55.2		07	1.[illegible]
25	29	25,068	-53.4		07	2.2
20	29	26,513	-51.1		07	1.4
15	29	28,393	-49.2		32	1.0
10	25	31,080	-44.9		33	1.5
7	14	33,456	-41.5		28	5.2

CHARLESTON, SC
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	13	13.4	10.9	34	1.7
1000	31	151	15.6	10.2	01	2.8
950	31	586	14.4	7.9	35	2.8
900	31	1,042	12.1	5.7	31	1.5
850	31	1,519	9.8	2.3	27	2.7
800	31	2,022	8.4	-4.1	27	4.5
750	31	2,554	6.4	-8.6	27	[illegible].7
700	31	3,117	3.8	-12.7	27	7.1
650	31	3,716	.8	-15.6	27	7.9
600	31	4,355	-2.6	-20.2	27	[illegible].1
550	31	5,040	-6.9	-24.1	27	10.3
500	31	5,776	-12.0	-27.9	27	11.6
450	31	6,574	-17.5	-32.0	27	13.2
400	31	7,445	-23.8	-37.3	26	14.9
350	31	8,410	-30.5	-42.5	27	17.2
300	31	9,486	-38.0	-49.2	27	20.3
250	31	10,719	-46.7		27	23.3
200	31	12,170	-55.3		28	24.9
175	31	13,014	-59.0		28	25.3
150	31	13,973	-62.6		27	21.3
125	31	15,087	-66.2		27	16.[illegible]
100	31	16,434	-67.5		26	12.[illegible]
80	31	17,784	-65.0		26	7.5
70	30	18,605	-62.2		26	4.9
60	29	19,559	-61.0		26	2.7
50	28	20,699	-59.6		24	1.0
40	28	22,102	-57.7		06	1.0
30	28	23,930	-54.6		08	2.2
25	28	25,103	-52.5		08	2.2
20	27	26,549	-49.9		10	1.0
15	26	28,444	-47.8		30	2.6
10	18	31,116	-45.0		29	5.5
7						

CHATHAM, MA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	16	10.9	8.3	33	.3
1000	29	145	11.4	6.9	33	1.3
950	31	562	9.7	3.6	28	2.6
900	31	1,009	7.3	-.4	26	3.5
850	31	1,478	5.7	-5.5	25	5.4
800	31	1,973	4.3	-8.8	25	7.3
750	31	2,497	2.1	-10.6	25	8.2
700	31	3,051	-.5	-13.8	25	9.8
650	31	3,641	-3.2	-16.7	26	11.6
600	31	4,271	-6.4	-20.6	25	13.1
550	31	4,946	-10.4	-23.6	25	15.1
500	31	5,673	-15.1	-28.1	25	17.0
450	31	6,462	-20.4	-32.9	25	18.0
400	31	7,323	-26.7	-38.5	25	20.0
350	31	8,276	-33.6	-43.8	24	21.9
300	31	9,338	-41.1	-47.8	24	24.1
250	31	10,559	-48.1		25	27.2
200	31	12,005	-55.3		25	28.6
175	31	12,853	-57.5		25	26.1
150	30	13,830	-59.2		25	23.4
125	30	14,967	-61.2		25	19.4
100	30	16,351	-61.2		25	15.3
80	29	17,739	-60.4		26	10.3
70	29	18,574	-59.1		26	8.5
60	28	19,544	-58.3		26	6.0
50	28	20,694	-57.3		25	4.8
40	26	22,105	-56.7		26	3.1
30	25	23,936	-55.3		26	1.0
25	24	25,094	-54.5		28	1.5
20	22	26,541	-53.1		28	2.4
15	20	28,409	-51.6		27	5.2
10	11	31,054	-49.7			
7						

CHIHUAHUA, MEXICO
860 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	1,428	13.0	9.6	25	.5
1000						
950						
900						
850	31	1,585	14.6	7.4	25	.6
800	31	2,0[illegible]	14.4	5.7	26	[illegible]
750	31	2,583	11.4	2.0	21	2.0
700	31	3,165	7.6	-.6	23	3.8
650	31	3,763	3.6	-5.3	23	5.1
600	31	4,408	-.8	-10.5	23	6.1
550	31	5,098	-4.9	-15.5	23	6.6
500	31	5,841	-9.6	-22.5	24	6.7
450	31	6,646	-15.1	-27.6	25	7.0
400	31	7,526	-21.4	-32.8	25	[illegible]
350	31	8,5[illegible]	-28.3	-38.6	25	11.7
300	31	9,584	-36.3	-45.2	26	15.4
250	31	10,826	-45.0		26	18.4
200	31	12,287	-54.3		26	22.1
175	31	13,133	-59.4		26	21.7
150	31	14,085	-65.1		26	18.7
125	30	15,189	-7[illegible].2		27	16.3
100	29	16,497	-73.5		27	10.7
80	28	17,807	-71.0		28	5.8
70	27	18,606	-67.6		30	3.7
60	26	19,546	-63.9		29	.8
50	24	20,675	-60.6		24	.8
40	23	22,069	-59.0		12	.6
30	23	23,889	-55.4		08	3.2
25	22	25,055	-53.9		07	3.9
20	21	26,493	-51.6		08	4.9
15	18	28,386	-48.5		08	4.1
10	8	31,074	-45.3			
7						

• COLD BAY, AK
996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	30	3.3	.1	31	3.6
1000	10	107	5.4	1.1		
950	30	425	1.7	-1.6	30	5.9
900	31	844	-1.6	-3.7	30	[illegible].4
850	31	1,296	-4.9	-6.5	31	7.3
800	31	1,771	-7.4	-10.8	30	8.1
750	31	2,271	-10.0	-17.9	30	[illegible]
700	31	2,800	-12.9	-22.3	29	8.3
650	31	3,362	-16.1	-26.2	29	8.5
600	31	3,961	-19.7	-29.1	28	[illegible].6
550	31	4,602	-23.8	-33.0	28	9.5
500	31	5,291	-28.6	-38.5	27	10.4
450	31	6,038	-33.7	-42.2	26	11.1
400	31	6,854	-39.5	-44.3	26	11.1
350	31	7,760	-44.7		26	12.3
300	30	8,785	-49.1		26	13.6
250	30	9,976	-50.5		26	18.2
200	30	11,433	-49.9		26	17.8
175	30	12,307	-49.6		27	17.1
150	30	13,316	-50.3		26	15.4
125	29	14,497	-50.5		26	14.9
100	28	15,956	-50.8		26	13.5
80	25	17,414	-52.0		26	11.7
70	25	18,280	-51.8		26	[illegible].9
60	22	19,290	-52.5		26	8.8
50	21	20,465	-52.8		26	8.2
40	21	21,904	-53.4		26	6.[illegible]
30	21	23,756	-53.[illegible]		27	5.[illegible]
25	20	24,933	-52.6		28	3.8
20	16	26,373	-52.1		29	1.3
15	10	28,235	-49.2		24	.7
10						
7						

DAYTON, OH
983 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	299	7.2	4.6	28	.7
1000						
950	31	579	9.4	4.7	27	2.1
900	31	1,026	7.2	2.2	29	4.3
850	31	1,495	5.1	-2.9	29	5.1
800	31	1,989	3.3	-6.8	29	6.4
750	31	2,511	1.[illegible]	-12.0	29	7.5
700	31	3,065	-.6	-14.5	29	8.7
650	31	3,654	-3.6	-17.0	28	9.[illegible]
600	31	4,283	-6.9	-20.4	29	11.2
550	31	4,957	-11.1	-24.4	29	12.0
500	31	5,682	-16.1	-29.2	29	14.0
450	31	6,467	-21.4	-34.3	28	15.5
400	31	7,325	-27.5	-39.6	29	16.[illegible]
350	31	8,275	-34.5	-45.6	28	17.9
300	31	9,333	-41.9	-46.3	28	18.7
250	31	10,548	-49.4		28	21.2
200	29	11,995	-55.3		28	21.4
175	28	12,844	-57.2		28	19.2
150	27	13,816	-59.0		28	18.4
125	27	14,954	-61.3		28	14.7
100	26	16,334	-62.4		27	11.5
80	25	17,710	-61.1		27	6.8
70	23	18,544	-59.8		26	6.4
60	23	19,511	-58.2		25	5.8
50	22	20,662	-57.5		28	3.8
40	21	22,072	-57.1		23	.9
30	20	23,898	-54.9		08	.5
25	20	25,067	-53.[illegible]		20	.6
20	20	26,505	-52.5		30	.3
15	17	28,378	-51.2		27	3.2
10	13	30,996	-48.9		27	7.3
7						

DEL RIO, TX
980 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	314	17.9	13.6	10	2.3
1000						
950	31	582	18.5	13.1	15	5.4
900	31	1,045	17.1	10.3	17	6.3
850	31	1,533	15.9	[illegible].3	18	[illegible].0
800	31	2,047	13.8	3.5	20	3.0
750	31	2,589	11.1	-.5	25	2.7
700	31	3,161	7.4	-4.4	27	3.4
650	31	3,767	3.4	-7.6	27	[illegible].3
600	31	4,412	-1.0	-11.7	28	7.1
550	31	5,101	-5.2	-19.1	27	7.6
500	31	5,843	-9.6	-24.[illegible]	27	8.[illegible]
450	31	6,649	-14.8	-29.8	26	10.1
400	31	7,530	-21.2	-35.5	27	12.[illegible]
350	31	8,505	-27.9	-40.[illegible]	26	14.3
300	31	9,590	-36.3	-46.5	26	17.6
250	31	10,831	-45.3		26	21.4
200	31	12,288	-55.0		27	25.7
175	31	13,132	-60.2		27	24.7
150	31	14,079	-66.1		27	23.[illegible]
125	30	15,171	-70.8		27	18.2
100	30	16,482	-73.4		28	11.7
80	29	17,793	-71.4		29	6.3
70	29	18,590	-67.6		28	3.[illegible]
60	28	19,525	-63.7		26	2.8
50	28	20,653	-61.0		21	.6
40	27	22,047	-58.9		09	1.4
30	26	23,868	-56.1		08	3.1
25	26	25,031	-54.6		07	4.3
20	23	26,472	-52.6		09	4.6
15	21	28,346	-49.5		08	3.9
10	16	31,030	-45.0		06	4.5
7						

DENVER, CO
840 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	1,611	5.3	-5.0	18	1.0
1000						
950						
900						
850						
800	31	2,012	9.9	-5.4	32	2.4
750	31	2,546	7.7	-8.6	32	3.7
700	31	3,111	3.9	-11.6	30	4.8
650	31	3,709	.4	-15.4	29	6.7
600	31	4,346	-3.9	-18.9	29	8.9
550	31	5,026	-8.7	-22.9	29	10.6
500	31	5,758	-13.6	-27.6	28	11.4
450	31	6,551	-19.2	-33.0	28	12.[illegible]
400	31	7,415	-26.[illegible]	-38.1	28	13.9
350	31	8,371	-33.4	-44.8	28	15.9
300	31	9,431	-41.9	-47.2	28	18.3
250	31	10,643	-50.1		28	20.8
200	31	12,077	-56.7		28	20.8
175	31	12,919	-59.2		28	21.1
150	31	13,879	-61.8		28	18.[illegible]
125	31	15,002	-64.2		28	14.1
100	31	16,360	-66.1		28	10.8
80	31	17,717	-64.[illegible]		28	7.1
70	30	18,533	-63.3		29	5.5
60	30	19,486	-61.1		28	4.2
50	30	20,621	-59.7		28	4.1
40	30	22,026	-57.6		27	3.[illegible]
30	28	23,854	-55.0		27	3.0
25	28	25,021	-54.1		27	2.8
20	27	26,453	-53.4		27	3.6
15	25	28,314	-51.6		27	4.7
10	22	30,969	-49.1		28	7.7
7	5	33,365	-44.8			

DODGE CITY, KS
926 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	791	9.0	3.7	22	1.3
1000						
950						
900	31	1,029	12.8	3.5	24	3.2
850	31	1,510	12.8	-.7	27	4.6
800	31	2,018	1[illegible].9	-4.3	27	5.2
750	31	2,553	8.1	-7.7	28	5.8
700	31	[illegible],119	4.6	-9.8	29	6.8
650	31	3,718	.4	-13.1	29	7.8
600	31	4,355	-3.8	-17.0	29	9.6
550	31	5,037	-8.3	-22.1	29	10.8
500	31	5,771	-13.1	-27.1	29	11.8
450	30	6,564	-18.5	-33.3	28	14.4
400	30	7,432	-25.0	-37.9	28	15.6
350	30	8,390	-32.6	-43.7	28	17.4
300	30	9,454	-41.1	-46.6	28	19.0
250	30	10,670	-49.7		28	22.8
200	30	12,104	-56.9		28	26.0
175	30	12,945	-59.4		28	26.5
150	30	13,904	-62.1		28	24.0
125	30	15,020	-65.7		28	19.3
100	30	16,371	-67.0		28	13.3
80	30	17,719	-65.6		29	8.5
70	30	18,536	-63.1		28	4.7
60	29	19,486	-61.2		27	4.7
50	29	20,623	-59.2		27	3.7
40	29	22,028	-57.6		27	3.2
30	28	23,856	-55.5		27	1.0
25	28	25,021	-54.6		31	.7
20	28	26,456	-52.6		33	.3
15	27	28,324	-50.5		29	2.6
10	26	30,978	-48.3		28	6.1
7	13	33,403	-45.0			

EL PASO, TX
884 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	1,193	13.0	5.6	34	.3
1000						
950						
900						
850	31	1,526	15.8	3.5	25	1.0
800	31	2,038	12.9	2.0	26	2.9
750	31	2,578	9.[illegible]	-.2	26	4.7
700	31	3,147	6.0	-4.6	26	4.5
650	31	3,750	1.[illegible]	-8.5	25	4.3
600	31	4,391	-2.3	-13.2	25	5.5
550	31	5,078	-6.2	-19.7	26	6.3
500	31	5,817	-11.0	-23.4	26	8.0
450	31	6,618	-16.5	-28.6	26	8.8
400	31	7,492	-22.9	-34.9	26	[illegible].7
350	31	8,460	-30.2	-42.2	26	12.5
300	31	9,534	-38.7	-48.1	26	14.8
250	31	10,763	-47.5		26	18.3
200	31	12,211	-55.7		26	21.8
175	31	13,053	-59.8		27	22.1
150	31	14,005	-64.7		27	21.6
125	31	15,108	-68.7		27	18.9
100	30	16,431	-70.8		27	11.9
80	29	17,756	-69.0		28	6.8
70	27	18,559	-65.8		28	4.0
60	26	19,506	-62.7		28	2.[illegible]
50	26	20,639	-59.9		26	1.6
40	26	22,038	-58.5		26	.5
30	25	23,853	-56.0		07	2.9
25	24	25,013	-54.4		06	2.7
20	23	26,449	-53.1		06	2.[illegible]
15	22	28,319	-49.9		36	1.8
10	19	30,989	-46.0		31	3.2
7	8	33,374	-41.7			

ELY, NV
812 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	1,908	1.1	-7.6	19	3.8
1000						
950						
900						
850						
800	31	2,025	7.7	-3.2	19	3.1
750	31	2,559	7.6	-6.1	21	2.3
700	31	3,123	3.6	-9.1	25	3.6
650	31	3,720	-.4	-13.3	26	5.1
600	31	4,356	-4.4	-16.8	26	6.7
550	31	5,035	-8.8	-20.6	26	7.7
500	31	5,767	-13.9	-25.4	26	8.3
450	30	6,559	-19.3	-32.0	26	9.[illegible]
400	30	7,424	-25.8	-37.6	26	10.7
350	30	8,379	-33.4	-44.4	26	11.[illegible]
300	29	9,444	-42.1	-49.5	26	11.[illegible]
250	29	10,655	-50.7		27	13.[illegible]
200	29	12,086	-57.3		27	17.6
175	29	12,926	-59.4		27	19.2
150	29	13,886	-61.7		27	18.4
125	28	15,006	-64.3		27	15.5
100	28	16,365	-66.0		28	12.2
80	28	17,721	-64.9		28	7.6
70	28	18,539	-63.5		28	5.6
60	28	19,489	-61.9		28	3.8
50	28	20,623	-59.9		28	3.3
40	27	22,023	-58.3		29	3.5
30	26	23,845	-55.6		28	4.4
25	26	25,012	-54.3		28	3.8
20	25	26,443	-52.7		27	4.4
15	16	28,317	-51.9		28	6.0
10	5	30,933	-50.9			
7						

EMPALME, MEXICO
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	12	23.2	17.4	36	.6
1000	31	100	25.5	18.4	03	.5
950	31	552	24.8	13.7	10	.8
900	31	1,025	22.4	9.7	16	1.7
850	31	1,519	19.0	7.3	17	2.[illegible]
800	31	2,037	15.2	4.7	18	3.8
750	31	2,581	11.8	-.7	20	4.0
700	31	3,155	8.0	-6.6	21	4.5
650	31	3,763	4.7	-11.4	22	5.1
600	31	4,410	.8	-15.2	23	6.0
550	31	5,103	-3.7	-18.9	24	5.8
500	31	5,849	-8.7	-24.0	25	6.0
450	31	6,657	-14.6	-27.6	24	[illegible].5
400	31	7,539	-20.9	-33.3	25	8.7
350	31	8,516	-27.5	-39.9	25	11.6
300	31	9,605	-35.0	-46.9	26	15.0
250	31	10,854	-43.7		26	17.9
200	31	12,321	-53.5		26	19.9
175	31	13,170	-58.9		26	19.7
150	31	14,124	-64.5		26	18.[illegible]
125	31	15,224	-69.4		26	16.6
100	28	16,539	-72.2		27	9.6
80	28	17,859	-69.5		29	3.5
70	28	18,662	-66.6		29	2.0
60	25	19,601	-63.2		29	1.0
50	25	20,730	-60.5		15	.5
40	24	22,127	-58.3		09	1.1
30	24	23,949	-55.9		09	2.2
25	23	25,117	-54.2		07	3.3
20	20	26,551	-51.7		09	3.3
15	15	28,442	-47.9		07	1.4
10						
7						

• FAIRBANKS, AK
983 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	29	135	-4.5	-8.0	01	1.5
1000						
950	29	402	-2.7	-7.5	08	2.4
900	29	829	-4.3	-9.2	11	3.7
850	29	1,279	-5.4	-10.6	13	3.5
800	29	1,754	-7.1	-11.7	16	3.[illegible]
750	29	2,256	-8.5	-13.1	19	5.[illegible]
700	29	2,788	-11.7	-17.0	19	6.1
650	29	3,352	-15.0	-20.2	20	7.0
600	29	3,953	-18.8	-24.6	20	[illegible].0
550	29	4,596	-23.[illegible]	-30.3	20	[illegible].6
500	29	5,288	-27.8	-35.1	20	9.2
450	29	6,036	-33.5	-40.0	20	9.4
400	29	6,852	-39.9	-43.9	20	9.1
350	28	7,761	-46.3		21	8.9
300	28	8,767	-53.3		21	9.5
250	26	9,936	-57.0		21	12.5
200	22	11,384	-53.3		23	11.3
175	22	12,247	-52.1		22	10.[illegible]
150	22	13,247	-51.3		23	11.3
125	22	14,433	-50.7		23	11.6
100	22	15,886	-50.9		24	11.5
80	22	17,338	-51.2		24	11.4
70	22	18,206	-51.6		24	11.5
60	22	19,206	-52.0		25	11.9
50	21	20,391	-52.8		26	11.7
40	20	21,835	-53.4		26	11.3
30	20	23,685	-53.7		27	11.6
25	20	24,858	-53.5		27	10.8
20	14	26,298	-53.2		28	14.2
15	9	28,141	-53.3			
10						
7						

FLINT, MI
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m/s
SFC	31	236	6.3	4.2	21	.7
1000						
950	31	569	7.0	2.0	29	1.2
900	31	1,013	5.3	-1.7	29	2.0
850	31	1,478	3.5	-6.6	28	3.5
800	31	1,969	1.8	-8.1	29	4.9
750	31	2,488	-.2	-11.0	29	5.6
700	31	3,038	-2.8	-13.6	29	7.1
650	31	3,622	-5.4	-17.4	28	8.7
600	31	4,247	-8.8	-20.3	29	10.2
550	31	4,916	-12.7	-24.9	29	11.8
500	31	5,636	-17.9	-29.8	29	13.2
450	31	6,416	-23.0	-34.9	29	15.0
400	30	7,268	-29.1	-40.8	29	17.3
350	30	8,213	-35.6	-44.6	29	19.3
300	30	9,266	-42.7	-49.5	28	21.8
250	30	10,477	-49.9		28	25.1
200	30	11,917	-54.7		29	23.3
175	30	12,770	-55.9		28	22.8
150	30	13,747	-57.3		28	19.7
125	30	14,895	-59.0		28	17.1
100	30	16,289	-6[illegible].3		28	12.9
80	30	17,682	-59.6		27	8.2
70	30	18,520	-58.5		28	7.7
60	30	19,492	-57.4		27	5.3
50	29	20,646	-56.8		27	5.5
40	28	22,065	-56.1		28	3.4
30	28	23,9[illegible]	-54.6		27	3.1
25	27	25,065	-54.2		27	4.1
20	26	26,4[illegible]	-53.2		28	4.3
15	24	28,349	-52.1		29	[illegible].8
10	13	30,964	-5[illegible].3			
7						

RAWINSONDE DATA

Average monthly values

GLASGOW, MT
935 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	696	3.4	-.7	12	1.2
1000						
950						
900	31	1,004	8.1	-2.0	26	2.8
850	31	1,475	6.6	-4.4	29	5.2
800	31	1,971	3.7	-6.0	29	7.0
750	31	2,492	.6	-9.5	29	8.2
700	31	3,043	-2.3	-12.0	28	9.1
650	31	3,628	-5.8	-15.9	28	10.4
600	31	4,251	-9.4	-21.8	28	12.3
550	31	4,918	-13.9	-24.4	28	13.5
500	31	5,635	-18.4	-30.7	28	14.8
450	31	6,414	-23.5	-35.6	28	16.2
400	31	7,264	-30.0	-41.0	29	18.8
350	31	8,204	-37.1	-44.8	28	19.7
300	31	9,250	-44.8		28	20.2
250	30	10,440	-52.7		29	22.4
200	30	11,869	-55.9		29	21.5
175	30	12,718	-56.5		29	20.8
150	30	13,694	-57.3		28	18.7
125	30	14,842	-59.0		28	16.9
100	30	16,239	-59.7		28	13.8
80	30	17,634	-59.1		28	10.5
70	30	18,473	-58.9		28	8.8
60	30	19,442	-58.5		28	7.8
50	30	20,589	-57.9		28	5.8
40	29	21,997	-57.4		28	5.7
30	29	23,821	-56.0		28	5.4
25	26	24,989	-55.4		28	5.2
20	24	26,424	-53.7		28	5.6
15	20	28,285	-53.0		28	7.7
10	11	30,945	-49.8			

GRAND JUNCTION, CO
855 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	1,472	8.4	-3.0	12	2.1
1000						
950						
900						
850	29	1,525	10.2	-3.0	12	2.3
800	31	2,026	10.8	-3.9	15	2.2
750	31	2,562	7.8	-6.3	23	2.2
700	31	3,126	3.8	-8.6	26	4.5
650	31	3,724	-.3	-12.5	26	5.8
600	31	4,360	-4.5	-17.3	26	7.4
550	31	5,040	-8.5	-22.3	26	9.0
500	31	5,772	-13.2	-26.2	27	10.3
450	31	6,566	-18.8	-31.9	27	11.4
400	30	7,430	-25.6	-37.0	28	13.1
350	30	8,388	-32.8	-43.8	27	14.9
300	30	9,450	-41.3	-48.2	27	18.2
250	30	10,665	-49.8		27	20.3
200	30	12,102	-56.4		27	22.8
175	30	12,945	-58.7		27	22.0
150	30	13,908	-61.3		27	19.0
125	30	15,032	-63.8		27	17.0
100	28	16,395	-65.5		28	11.9
80	28	17,752	-65.0		28	7.3
70	28	18,569	-63.4		28	8.3
60	28	19,522	-61.1		28	4.6
50	25	20,657	-59.5		28	4.4
40	25	22,063	-57.2		29	3.4
30	24	23,890	-55.0		27	4.3
25	23	25,061	-54.1		28	3.4
20	21	26,502	-52.3		27	3.7
15	18	28,375	-50.3		27	5.0
10						

* GREAT FALLS, MT
889 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	1,118	5.4	-1.5	22	3.9
1000						
950						
900						
850	31	1,483	7.7	-4.6	25	7.8
800	31	1,980	4.7	-7.0	27	7.9
750	31	2,503	1.4	-9.4	27	9.2
700	31	3,055	-1.9	-13.0	27	10.3
650	31	3,641	-5.2	-16.6	27	11.8
600	31	4,266	-9.1	-20.1	27	13.2
550	31	4,934	-13.3	-23.8	27	13.9
500	31	5,653	-18.0	-28.7	27	14.4
450	31	6,432	-23.7	-34.8	27	15.8
400	31	7,282	-29.6	-39.7	27	17.8
350	30	8,226	-36.4	-44.8	27	18.2
300	30	9,274	-44.3	-51.7	28	19.0
250	30	10,474	-52.0		28	19.9
200	30	11,901	-57.2		28	20.6
175	30	12,743	-58.2		28	19.3
150	30	13,712	-58.7		28	17.8
125	30	14,854	-60.1		28	16.1
100	30	16,243	-60.9		28	13.1
80	29	17,635	-59.9		27	10.4
70	29	18,470	-59.4		27	9.3
60	29	19,436	-59.1		28	6.7
50	29	20,581	-58.3		28	5.2
40	29	21,985	-57.8		28	5.1
30	29	23,807	-56.3		28	4.4
25	27	24,965	-55.2		28	4.9
20	26	26,396	-53.9		28	4.7
15	24	28,239	-52.9		28	6.7
10	14	30,870	-51.5		27	14.0

GREEN BAY, WI
992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	210	5.3	3.4	27	1.2
1000	5	223	4.5	1.0		
950	31	563	7.0	1.3	28	2.4
900	31	1,006	5.1	-3.0	30	3.0
850	31	1,471	3.0	-7.7	30	3.2
800	31	1,960	1.4	-10.2	30	3.7
750	31	2,478	-.7	-13.6	29	4.7
700	31	3,026	-3.5	-16.6	29	6.3
650	31	3,609	-6.2	-19.7	29	7.1
600	31	4,231	-9.7	-23.8	29	8.4
550	31	4,898	-13.8	-26.9	29	10.0
500	31	5,616	-18.3	-30.1	29	10.6
450	31	6,394	-23.3	-34.4	28	11.9
400	31	7,246	-29.4	-41.5	29	13.6
350	31	8,188	-36.5	-47.6	29	15.3
300	31	9,236	-44.2	-51.6	29	16.7
250	31	10,440	-51.0		28	17.3
200	31	11,877	-55.1		29	17.5
175	31	12,729	-55.7		28	17.5
150	31	13,707	-57.8		28	15.9
125	31	14,853	-59.4		28	14.6
100	31	16,248	-59.9		28	11.0
80	31	17,644	-59.3		28	8.6
70	30	18,480	-58.5		28	7.9
60	30	19,451	-58.0		28	6.6
50	30	20,603	-56.8		27	5.8
40	29	22,022	-56.0		26	6.1
30	27	23,860	-54.4		26	6.4
25	27	25,030	-53.9		27	6.5
20	26	26,471	-52.6		27	6.7
15	25	28,333	-51.6		27	8.2
10	19	31,007	-49.5		27	11.8

GREENSBORO, NC
986 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	275	8.7	6.0	36	1.2
1000						
950	31	585	11.2	4.8	01	2.9
900	31	1,035	9.2	3.0	36	2.7
850	31	1,508	7.6	.5	31	3.5
800	31	2,006	6.0	-4.4	29	4.5
750	31	2,534	4.2	-9.9	27	6.0
700	31	3,093	1.5	-12.6	27	7.1
650	31	3,687	-1.2	-16.4	28	8.8
600	31	4,321	-4.7	-20.7	28	10.5
550	31	5,000	-8.8	-23.9	28	10.9
500	31	5,732	-13.5	-27.6	28	11.0
450	31	6,525	-18.6	-31.7	28	12.9
400	31	7,393	-24.9	-38.2	28	14.1
350	31	8,353	-32.0	-43.7	28	15.9
300	31	9,421	-39.8	-47.4	28	17.7
250	31	10,645	-47.9		27	19.8
200	31	12,091	-55.3		28	23.0
175	31	12,938	-58.2		28	23.9
150	31	13,904	-60.3		28	20.0
125	31	15,032	-63.3		27	14.9
100	31	16,398	-64.6		26	12.1
80	30	17,765	-63.2		26	8.4
70	30	18,590	-61.3		27	6.3
60	30	19,550	-60.1		26	3.7
50	30	20,691	-59.0		25	2.4
40	30	22,097	-57.4		20	.2
30	30	23,924	-55.3		09	2.0
25	28	25,091	-53.4		10	2.5
20	28	26,536	-51.2		10	1.4
15	26	28,410	-49.3		27	2.0
10	18	31,066	-47.3		29	7.6

GUADALUPE IS., MEXICO
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	21	23	18.4	15.7	34	5.4
1000	21	120	17.5	15.0	34	5.1
950	21	559	18.8	7.4	34	2.5
900	21	1,025	19.9	3.2	33	1.6
850	21	1,516	17.5	1.9	27	.9
800	21	2,031	14.7	-.9	20	.4
750	21	2,574	11.8	-5.0	18	.6
700	21	3,147	8.5	-7.9	30	.3
650	21	3,756	4.8	-11.5	24	1.8
600	21	4,404	.3	-14.1	25	2.7
550	21	5,095	-4.1	-17.6	25	3.0
500	21	5,840	-8.9	-24.9	25	4.7
450	21	6,648	-14.3	-28.7	25	5.8
400	21	7,531	-20.6	-35.8	25	7.1
350	21	8,507	-28.0	-41.9	24	8.4
300	21	9,591	-36.4	-48.1	25	10.2
250	21	10,834	-44.5		24	12.3
200	21	12,296	-54.5		24	13.8
175	21	13,142	-59.7		24	15.0
150	21	14,093	-65.2		24	15.1
125	21	15,190	-70.4		24	13.0
100	21	16,505	-72.5		25	6.6
80	19	17,824	-69.8		31	1.6
70	19	18,624	-67.8		33	1.7
60	18	19,561	-64.8		35	1.8
50	18	20,685	-60.8		34	.4
40	18	22,080	-58.8		07	1.5
30	18	23,897	-56.1		09	4.6
25	16	25,055	-54.5		08	5.4
20	14	26,497	-52.0		07	5.8
15	5	28,364	-48.7			
10						
7						
5						
4						

* GUAM, MARIANA IS.
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	111	25.0	23.8	06	.5
1000						
950	31	533	24.0	22.0	05	1.0
900	31	1,007	21.1	18.7	01	.3
850	31	1,501	18.4	15.4	29	.6
800	31	2,020	16.0	11.8	28	.4
750	31	2,568	13.4	8.0	07	.3
700	31	3,147	10.8	1.9	07	.6
650	31	3,762	7.6	-3.3	05	.9
600	31	4,417	3.8	-7.8	06	1.1
550	31	5,119	-.1	-12.1	06	1.3
500	31	5,877	-4.5	-16.4	07	2.2
450	31	6,699	-9.3	-22.5	06	2.9
400	31	7,601	-15.0	-28.5	05	3.1
350	31	8,601	-21.6	-34.8	07	2.3
300	31	9,715	-29.9	-41.6	20	.3
250	31	10,987	-40.1	-49.0	17	1.8
200	31	12,469	-52.7		15	2.9
175	31	13,317	-59.9		13	4.0
150	31	14,261	-68.1		11	4.6
125	31	15,334	-76.3		09	7.9
100	28	16,597	-81.1		09	12.7
80	25	17,860	-77.4		09	11.3
70	23	18,633	-73.7		09	12.0
60	22	19,543	-70.5		09	15.1
50	21	20,642	-64.3		09	18.7
40	21	22,024	-60.0		09	18.5
30	21	23,834	-56.9		09	12.4
25	19	24,999	-53.4		09	9.2
20	19	26,450	-49.3		08	7.0
15	18	28,354	-45.6		08	6.4
10	15	31,085	-41.1		08	7.7
7						
5						
4						

HILO, HI
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	10	22.1	19.8	25	1.4
1000	31	143	22.5	20.0	25	.6
950	31	589	19.7	18.1	08	2.3
900	31	1,054	16.6	15.2	08	3.2
850	31	1,539	13.6	12.1	07	3.0
800	31	2,049	11.4	6.5	08	3.0
750	31	2,588	10.5	-4.2	09	3.9
700	31	3,161	8.5	-8.3	09	3.3
650	31	3,770	5.3	-10.0	10	2.5
600	31	4,420	2.2	-13.5	09	1.9
550	30	5,118	-1.5	-18.8	06	.7
500	30	5,870	-6.3	-23.6	30	.9
450	30	6,687	-11.5	-27.9	27	2.4
400	30	7,579	-17.7	-33.6	27	5.8
350	30	8,567	-24.9	-38.8	26	8.2
300	30	9,666	-33.3	-46.7	26	11.0
250	30	10,921	-43.3		26	14.8
200	30	12,384	-55.3		27	16.1
175	30	13,224	-61.5		27	15.8
150	30	14,166	-67.7		27	13.0
125	30	15,247	-73.6		27	8.4
100	30	16,540	-76.4		26	1.6
80	30	17,831	-73.9		06	3.9
70	29	18,617	-70.3		08	7.0
60	28	19,539	-67.1		09	8.4
50	28	20,650	-63.2		09	9.8
40	28	22,031	-60.7		09	10.3
30	28	23,833	-57.8		09	12.9
25	28	24,992	-54.5		09	13.0
20	28	26,433	-50.9		09	10.8
15	23	28,322	-47.5		10	7.2
10	14	31,024	-42.5		07	1.6
7						
5						
4						

HUNTINGTON, WV
989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	246	8.3	5.0	29	.4
1000						
950	31	581	9.8	4.2	26	2.5
900	31	1,029	7.7	2.4	27	4.5
850	31	1,499	5.2	-1.2	27	5.0
800	31	1,993	3.6	-6.1	28	5.3
750	31	2,516	2.2	-11.3	29	6.2
700	31	3,070	-.1	-14.3	29	7.0
650	31	3,661	-2.9	-17.5	29	8.3
600	31	4,291	-6.5	-21.6	29	9.4
550	31	4,965	-10.9	-24.8	29	11.5
500	31	5,691	-15.3	-29.6	29	12.7
450	31	6,479	-20.8	-35.0	27	13.6
400	31	7,339	-27.0	-40.9	27	15.0
350	31	8,292	-33.6	-45.0	28	17.9
300	31	9,353	-41.2	-48.6	28	19.4
250	31	10,571	-49.3		28	20.5
200	31	12,013	-55.2		28	23.1
175	31	12,862	-57.2		28	22.6
150	31	13,833	-59.0		28	19.4
125	31	14,969	-62.0		28	14.9
100	31	16,346	-62.8		27	11.3
80	31	17,720	-62.3		27	8.4
70	31	18,549	-60.0		26	6.5
60	31	19,515	-58.5		25	4.4
50	31	20,663	-57.9		27	3.1
40	31	22,074	-56.9		27	.9
30	31	23,904	-54.9		06	1.1
25	31	25,074	-53.3		09	1.5
20	30	26,516	-51.9		10	.3
15	26	28,374	-50.4		28	3.9
10	13	30,989	-49.0		27	10.2
7						
5						
4						

* INTERNATIONAL FALLS, MN
973 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	359	2.5	-.3	26	.7
1000						
950	31	556	5.6	-.8	25	2.3
900	31	998	4.0	-3.0	28	3.8
850	31	1,461	2.0	-6.2	28	4.2
800	31	1,949	.2	-11.2	29	5.2
750	31	2,464	-1.9	-14.2	29	6.0
700	31	3,010	-4.7	-17.3	29	6.9
650	31	3,590	-7.6	-20.2	29	8.5
600	31	4,210	-10.8	-22.3	29	9.6
550	31	4,873	-15.0	-25.8	29	11.1
500	31	5,588	-19.7	-30.9	29	13.3
450	31	6,362	-25.2	-35.5	28	14.2
400	31	7,207	-31.2	-40.8	28	15.2
350	31	8,143	-37.8	-46.4	29	15.8
300	31	9,186	-45.5		29	17.9
250	31	10,382	-52.4		29	19.3
200	31	11,811	-56.1		29	18.6
175	31	12,660	-56.3		29	16.9
150	30	13,643	-56.9		29	16.3
125	30	14,796	-58.2		29	12.8
100	30	16,198	-58.7		28	11.4
80	30	17,601	-58.2		28	10.2
70	29	18,443	-57.8		28	8.8
60	29	19,416	-57.4		28	7.5
50	28	20,568	-57.5		27	5.8
40	28	21,981	-56.4		28	5.6
30	26	23,814	-55.3		27	6.1
25	25	24,970	-55.0		27	7.3
20	22	26,406	-53.6		27	9.0
15	22	28,260	-52.7		28	10.3
10	20	30,866	-51.6		28	13.7
7	19	33,207	-48.8		27	18.4
5	14	35,403	-46.9			
4	5	37,041	-42.4			

* ISLE DEL CISNE
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	10	26.6	23.4	06	2.4
1000	31	107	26.7	23.7	06	3.2
950	31	559	23.2	20.9	07	4.9
900	31	1,031	20.5	16.2	08	4.6
850	31	1,523	17.4	12.5	08	4.1
800	31	2,040	14.7	8.2	09	3.8
750	31	2,584	11.8	4.7	09	3.9
700	31	3,159	9.0	-2.0	09	3.3
650	31	3,770	6.4	-8.0	09	3.3
600	31	4,422	2.7	-11.4	08	3.0
550	31	5,121	-1.3	-15.7	08	2.8
500	31	5,874	-5.9	-20.0	06	3.3
450	31	6,692	-11.0	-24.7	04	3.4
400	31	7,586	-17.0	-30.9	04	3.3
350	31	8,578	-23.9	-37.6	01	3.5
300	31	9,681	-32.2	-44.1	34	4.6
250	30	10,940	-42.5		30	6.0
200	30	12,408	-54.6		28	7.4
175	30	13,250	-61.1		29	7.7
150	30	14,191	-68.1		29	7.5
125	30	15,267	-75.1		31	6.9
100	27	16,546	-77.9		31	3.5
80	26	17,835	-73.2		07	2.9
70	26	18,624	-69.5		09	8.3
60	23	19,550	-67.0		09	9.0
50	22	20,662	-62.6		09	11.0
40	22	22,048	-60.3		09	12.7
30	18	23,850	-56.0		09	13.5
25	18	25,018	-52.7		09	10.6
20	17	26,471	-48.9		08	6.8
15	15	28,390	-43.8		08	4.6
10	9	31,15[illegible]	-39.2			
7	5	33,633	-35.3			

JACKSON, MS
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	100	11.8	10.6	11	1.1
1000	29	159	13.3	10.2	08	1.3
950	31	590	15.1	7.8	34	.3
900	31	1,047	13.3	3.4	31	2.2
850	31	1,527	11.6	-1.2	31	3.6
800	31	2,033	10.0	-5.5	32	4.7
750	31	2,567	7.4	-8.1	31	3.3
700	31	3,132	4.7	-11.2	30	6.1
650	31	3,733	1.6	-13.8	30	7.6
600	31	4,373	-2.0	-16.9	29	9.1
550	31	5,060	-6.2	-20.6	28	11.6
500	31	5,799	-10.8	-25.2	28	12.7
450	31	6,601	-16.2	-29.9	28	14.7
400	31	7,477	-22.3	-35.5	28	17.4
350	30	8,448	-29.8	-41.0	29	19.6
300	30	9,526	-37.9	-46.8	29	22.4
250	30	10,760	-46.6		28	26.1
200	30	12,210	-55.9		28	29.5
175	30	13,051	-60.4		29	29.9
150	30	14,000	-64.8		29	27.7
125	30	15,104	-68.5		29	22.0
100	30	16,434	-70.5		28	14.5
80	30	17,763	-68.3		28	8.2
70	30	18,572	-64.6		27	5.2
60	29	19,519	-61.6		27	3.5
50	28	20,653	-60.1		23	1.1
40	28	22,050	-58.6		08	.3
30	27	23,873	-55.6		08	2.3
25	27	25,040	-53.8		06	1.2
20	26	26,488	-51.6		06	2.3
15	23	28,364	-49.3		08	.6
10	23	31,042	-46.1		36	1.9
7	15	33,459	-42.0			

JOHN F. KENNEDY INT. AP NY
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	5	10.6	6.8	34	1.1
1000	29	153	10.9	6.0	34	1.0
950	31	567	9.1	2.8	31	2.4
900	31	1,014	6.9	.5	30	2.7
850	31	1,483	5.1	-3.1	28	3.6
800	31	1,977	3.6	-6.8	27	5.7
750	31	2,499	1.7	-9.2	26	7.4
700	31	3,053	-.6	-12.8	26	9.7
650	31	3,643	-3.6	-15.6	26	11.2
600	31	4,270	-7.6	-18.4	26	12.7
550	31	4,943	-11.5	-21.4	26	14.6
500	31	5,668	-15.7	-26.7	26	15.8
450	31	6,455	-20.9	-31.1	25	16.4
400	31	7,315	-27.0	-36.9	25	18.9
350	31	8,267	-33.8	-43.2	25	23.0
300	31	9,328	-41.4	-46.0	25	26.9
250	31	10,545	-48.8		25	27.9
200	30	11,996	-55.0		25	30.5
175	30	12,844	-57.4		25	27.3
150	30	13,815	-58.6		25	23.1
125	30	14,955	-61.1		26	19.2
100	30	16,339	-61.6		25	13.9
80	30	17,726	-60.1		26	8.6
70	30	18,562	-59.1		26	8.1
60	29	19,529	-58.1		25	4.2
50	29	20,680	-57.2		25	2.8
40	27	22,100	-56.2		07	.5
30	27	23,936	-54.6		07	2.8
25	26	25,103	-53.6		07	2.0
20	25	26,547	-52.2		04	2.1
15	23	28,430	-50.2		30	2.6
10	10	31,120	-47.3			
7						

JOHNSTON IS., PACIFIC AREA
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	3	26.9	23.6	09	8.3
1000	31	115	25.6	23.2	09	8.9
950	31	566	22.2	20.9	09	8.2
900	31	1,035	19.1	16.7	09	8.2
850	31	1,526	16.3	13.4	09	7.3
800	31	2,041	14.3	7.6	09	5.7
750	31	2,585	12.1	2.2	09	4.5
700	31	3,161	9.4	-3.6	09	3.5
650	31	3,772	6.1	-8.0	09	2.9
600	31	4,424	2.5	-12.4	10	2.0
550	31	5,122	-1.9	-15.7	14	.8
500	31	5,873	-6.7	-20.1	23	1.9
450	31	6,689	-11.5	-26.7	24	3.1
400	31	7,582	-17.1	-32.2	24	4.6
350	31	8,573	-24.2	-36.5	25	7.2
300	31	9,676	-32.4	-44.7	26	10.8
250	31	10,935	-42.2		25	14.8
200	31	12,407	-54.0		26	16.7
175	31	13,251	-60.7		26	16.5
150	31	14,195	-67.4		26	14.9
125	29	15,275	-73.9		25	9.8
100	28	16,564	-77.4		24	3.3
80	27	17,849	-75.5		07	4.4
70	27	18,630	-71.8		08	8.4
60	27	19,549	-67.6		09	11.7
50	27	20,658	-64.0		09	13.0
40	27	22,035	-61.1		09	13.9
30	26	23,839	-57.7		09	14.5
25	26	24,997	-54.8		09	13.3
20	24	26,437	-50.8		09	9.8
15	22	28,333	-46.7		08	7.3
10	19	31,054	-41.9		10	5.7
7	6	33,481	-38.3			

KEY WEST, FL
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	31	3	24.1	20.4	03	2.6
1000	31	135	23.7	19.4	04	3.4
950	31	583	20.4	17.1	06	3.0
900	31	1,049	17.8	12.2	09	1.2
850	31	1,537	15.5	8.2	23	.8
800	31	2,050	13.6	1.8	25	1.8
750	31	2,592	11.5	-3.3	26	2.5
700	31	3,166	8.9	-8.3	27	3.1
650	31	3,776	5.6	-12.0	28	3.3
600	31	4,426	1.8	-15.1	28	4.1
550	31	5,122	-2.5	-19.1	28	5.3
500	31	5,871	-7.3	-23.4	28	7.1
450	31	6,684	-12.2	-27.2	28	8.7
400	31	7,574	-18.6	-31.8	29	10.4
350	31	8,559	-25.8	-39.3	29	11.8
300	31	9,653	-34.6	-47.1	29	13.4
250	31	10,901	-44.4		29	15.3
200	30	12,357	-55.6		29	17.6
175	30	13,198	-61.0		29	16.1
150	30	14,142	-67.2		29	16.4
125	30	15,227	-72.6		29	14.2
100	30	16,530	-73.6		29	7.8
80	30	17,844	-69.6		29	2.9
70	30	18,648	-66.4		20	1.2
60	29	19,587	-63.7		12	1.8
50	29	20,712	-61.4		09	3.3
40	29	22,105	-58.8		08	5.8
30	29	23,927	-55.4		09	7.6
25	29	25,097	-53.0		09	9.1
20	28	26,548	-50.0		09	8.4
15	28	28,449	-45.6		08	4.2
10	21	31,164	-41.7		07	4.2
7	6	33,614	-37.4			

RAWINSONDE DATA

Average monthly values

OCTOBER 1977

KING SALMON, AK
994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	15	-1.2	-4.4	35	1.9
1000	7	124	3.1	.0		
950	31	374	-1.0	-4.3	36	3.7
900	31	804	-3.3	-6.8	36	3.2
850	31	1,254	-4.8	-9.0	36	2.1
800	31	1,731	-6.1	-12.3	31	2.1
750	31	2,234	-8.6	-15.3	30	2.9
700	31	2,766	-11.7	-18.5	29	2.3
650	31	3,330	-15.0	-22.5	27	2.1
600	31	3,931	-19.0	-26.4	25	2.1
550	31	4,574	-23.1	-30.2	22	2.9
500	31	5,265	-27.9	-35.6	22	3.8
450	31	6,014	-33.2	-40.6	22	5.5
400	31	6,831	-39.5	-43.8	22	6.7
350	31	7,736	-45.2		21	7.6
300	31	8,749	-51.3		22	8.1
250	31	9,925	-53.2		24	10.0
200	30	11,379	-50.3		25	11.0
175	29	12,256	-49.[illegible]		24	11.[illegible]
150	29	13,265	-49.5		25	10.8
125	29	14,458	-49.9		25	11.0
100	29	15,917	-50.[illegible]		25	10.6
80	27	17,370	-50.9		25	9.8
70	27	18,239	-51.0		25	8.5
60	27	19,241	-51.9		25	8.4
50	26	20,427	-51.9		25	7.2
40	26	21,872	-52.4		26	6.2
30	25	23,726	-52.3		27	6.8
25	24	24,907	-52.2		28	6.6
20	23	26,357	-51.6		28	6.5
15	13	28,229	-51.8		28	7.4
10						
7						

+ KOROR, CAROLINE IS.
1007 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	30	28.3	24.8	28	2.2
1000	30	88	27.2	24.2	28	2.6
950	30	542	23.5	21.9	27	4.9
900	30	1,014	20.7	18.5	27	5.2
850	30	1,507	17.8	14.9	27	4.7
800	30	2,026	15.5	12.3	27	3.[illegible]
750	30	2,572	13.0	8.0	27	3.3
700	30	3,150	10.2	2.0	28	1.9
650	30	3,764	6.8	-1.7	31	.[illegible]
600	30	4,418	3.2	-6.9	02	1.0
550	30	5,119	-.7	-9.1	06	2.2
500	30	5,875	-5.0	-15.1	08	3.4
450	30	6,697	-9.6	-20.8	07	4.1
400	30	7,597	-15.2	-29.1	08	3.8
350	30	8,597	-21.8	-35.7	09	4.7
300	30	9,710	-30.3	-43.1	09	4.7
250	30	10,979	-40.8	-50.2	09	5.7
200	30	12,456	-53.6		09	9.1
175	30	13,301	-60.8		09	10.8
150	30	14,242	-68.6		09	13.8
125	30	15,314	-76.4		09	13.2
100	30	16,582	-80.2		09	7.6
80	29	17,850	-77.2		09	7.[illegible]
70	29	18,623	-73.2		09	10.1
60	29	19,534	-69.6		09	17.6
50	28	20,638	-64.2		09	23.7
40	28	22,027	-58.2		09	17.6
30	26	23,859	-53.5		09	2.5
25	26	25,042	-50.1		24	2.2
20	25	26,508	-47.4		25	4.2
15	23	28,424	-44.5		25	7.0
10	21	31,173	-39.0		29	2.2
7	8	33,654	-34.6			

KOTZEBUE, AK
1001 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	5	-4.0	-7.2	07	3.6
1000	14	79	-3.4	-8.1	08	1.8
950	28	415	-4.8	-8.[illegible]	10	4.0
900	28	839	-7.2	-10.0	11	3.7
850	28	1,283	-9.3	-13.0	12	3.6
800	28	1,750	-11.0	-15.4	12	3.0
750	28	2,244	-13.4	-18.2	13	3.1
700	28	2,766	-16.5	-22.5	14	3.5
650	28	3,320	-19.6	-25.7	14	3.8
600	28	3,911	-23.2	-29.8	15	5.8
550	28	4,543	-27.2	-33.6	15	6.0
500	28	5,223	-31.8	-38.7	15	6.9
450	27	5,951	-37.2	-41.7	16	7.1
400	27	6,755	-43.0	-43.6	17	7.5
350	27	7,647	-48.4		17	8.5
300	27	8,646	-54.3		18	10.3
250	26	9,813	-56.0		18	10.0
200	26	11,244	-52.3		20	8.1
175	26	12,110	-51.6		21	7.3
150	26	13,111	-51.0		22	8.2
125	26	14,298	-50.9		22	8.2
100	26	15,751	-50.8		23	9.6
80	26	17,202	-51.3		24	10.0
70	26	18,070	-51.7		24	11.2
60	25	19,071	-51.9		24	11.8
50	24	20,248	-52.2		24	12.9
40	24	21,692	-52.3		25	13.5
30	22	23,562	-52.0		26	14.5
25	20	24,738	-52.6		27	15.2
20	18	26,183	-52.0		27	15.4
15	17	28,052	-51.6		27	17.0
10	6	30,725	-53.5			
7						

LAKE CHARLES, LA
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	15.6	13.3	05	1.1
1000	31	155	19.0	13.9	07	1.5
950	31	595	17.7	9.1	10	1.0
900	31	1,056	15.6	5.2	36	.7
850	31	1,540	13.8	-.8	31	1.5
800	31	2,049	11.5	-3.3	31	2.9
750	31	2,586	9.0	-6.1	30	4.0
700	31	3,154	6.1	-6.6	29	4.8
650	31	3,758	2.9	-10.7	29	5.7
600	31	4,402	-.7	-15.1	28	7.4
550	31	5,092	-4.7	-18.6	28	9.1
500	31	5,836	-9.3	-23.7	28	10.2
450	31	6,642	-14.9	-28.2	28	12.1
400	31	7,522	-21.0	-32.9	28	14.9
350	31	8,498	-28.0	-40.5	28	17.2
300	31	9,583	-36.5	-47.6	28	20.[illegible]
250	31	10,822	-45.6		28	25.0
200	30	12,281	-55.3		28	28.2
175	30	13,123	-60.4		28	28.[illegible]
150	30	14,071	-65.7		28	25.6
125	30	15,168	-70.1		28	20.6
100	27	16,484	-72.4		29	13.8
80	26	17,805	-69.6		29	7.0
70	25	18,608	-66.2		28	4.4
60	25	19,551	-62.7		27	2.7
50	25	20,682	-60.3		21	.7
40	25	22,079	-58.7		08	1.9
30	25	23,899	-55.5		08	2.0
25	24	25,062	-53.7		07	2.2
20	23	26,503	-51.6		05	1.7
15	23	28,381	-48.9		04	.6
10	16	31,081	-45.[illegible]		01	2.8
7						

LANDER, WY
831 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,697	3.9	-3.0	24	.9
1000						
950						
900						
850						
800	31	2,012	6.9	-4.7	26	.8
750	31	2,540	4.8	-8.2	28	1.8
700	31	3,100	1.9	-13.4	29	4.4
650	31	3,693	-2.1	-15.9	28	7.7
600	31	4,325	-6.0	-19.7	28	10.6
550	31	5,000	-10.6	-23.8	27	11.6
500	31	5,726	-15.6	-26.5	28	12.1
450	31	6,512	-21.2	-34.4	28	13.8
400	31	7,371	-27.6	-40.3	28	15.9
350	31	8,320	-34.8	-46.2	28	17.6
300	31	9,375	-43.3		28	19.2
250	31	10,581	-51.2		28	21.1
200	30	12,003	-57.2		27	22.6
175	30	12,846	-58.0		27	21.4
150	30	13,814	-60.0		27	20.1
125	30	14,946	-62.3		27	18.2
100	30	16,320	-63.3		27	12.8
80	30	17,693	-62.7		28	9.9
70	30	18,519	-61.1		28	5.5
60	30	19,479	-6[illegible].3		29	4.2
50	30	20,618	-59.4		30	3.0
40	29	22,020	-57.9		27	4.6
30	29	23,846	-55.6		28	4.7
25	29	25,012	-54.3		27	4.5
20	27	26,450	-52.9		27	6.1
15	23	28,307	-51.6		27	9.3
10	9	30,924	-51.0			
7						

• LIHUE KAUAI, HI
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	36	24.5	21.[illegible]	06	4.2
1000	31	149	24.0	20.2	06	5.[illegible]
950	31	597	20.3	18.1	07	6.4
900	31	1,062	17.0	13.[illegible]	08	6.4
850	31	1,548	14.1	9.1	08	6.0
800	31	2,059	12.2	3.3	08	5.7
750	31	2,599	11.2	-4.9	08	4.9
700	31	3,173	8.[illegible]	-9.4	09	3.5
650	31	3,782	5.6	-12.1	08	2.0
600	31	4,432	1.9	-15.4	09	1.7
550	31	5,129	-2.0	-20.1	10	.9
500	31	5,880	-6.6	-24.7	24	.4
450	31	6,695	-12.1	-28.8	24	1.9
400	31	7,584	-18.6	-34.9	25	3.3
350	31	8,568	-25.6	-39.5	25	6.4
300	31	9,666	-33.7	-46.5	25	8.6
250	31	10,918	-43.4		26	11.2
200	31	12,384	-54.3		26	13.7
175	31	13,229	-60.2		26	12.8
150	31	14,176	-66.6		26	11.2
125	31	15,264	-71.[illegible]		26	8.2
100	31	16,570	-74.7		25	[illegible].4
80	31	17,869	-73.1		07	2.6
70	30	18,657	-70.1		08	4.8
60	30	19,582	-66.[illegible]		08	6.[illegible]
50	30	20,693	-63.3		08	7.8
40	30	22,075	-60.6		10	[illegible].2
30	30	23,881	-57.3		09	10.3
25	30	25,039	-55.[illegible]		09	11.7
20	30	26,477	-51.4		09	11.[illegible]
15	28	28,360	-48.0		09	8.9
10	24	31,054	-43.0		09	2.5
7	8	33,490	-38.3			

LITTLE ROCK, AR
1000 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	79	13.0	9.5	25	.2
1000	15	200	12.4	6.1	14	.2
950	31	603	14.7	5.5	27	1.4
900	31	1,059	12.6	1.9	29	3.7
850	31	1,538	11.0	-1.7	30	5.5
800	31	2,042	9.[illegible]	-5.3	30	5.7
750	31	2,574	6.3	-8.0	29	5.8
700	31	3,136	3.2	-11.1	29	6.4
650	31	3,734	-.[illegible]	-13.4	29	7.7
600	31	4,370	-3.[illegible]	-16.5	29	9.1
550	31	5,052	-7.7	-21.4	29	10.6
500	31	5,787	-12.3	-28.0	29	11.7
450	31	6,584	-17.7	-32.6	29	13.6
400	31	7,454	-24.0	-38.5	29	15.3
350	31	8,418	-31.3	-44.7	29	18.[illegible]
300	31	9,488	-39.8	-48.9	29	20.6
250	31	10,712	-48.2		29	25.4
200	31	12,155	-56.0		28	27.[illegible]
175	30	13,001	-59.6		29	27.8
150	28	13,962	-63.7		29	26.8
125	28	15,072	-66.7		29	21.7
100	28	16,412	-69.[illegible]		29	14.4
80	28	17,753	-66.[illegible]		28	9.7
70	28	18,568	-63.4		28	6.3
60	27	19,521	-60.4		27	[illegible].7
50	27	20,663	-58.2		26	2.0
40	26	22,073	-57.3		22	.5
30	26	23,902	-55.[illegible]		07	1.6
25	26	25,071	-53.5		06	1.7
20	25	26,515	-51.3		07	1.7
15	23	28,395	-49.1		01	.3
10	22	31,079	-44.9		31	3.0
7	12	33,491	-41.9			

LONGVIEW, TX
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	124	14.8	12.1	16	.6
1000	28	166	15.4	10.6	11	.4
950	31	596	16.7	8.2	23	2.3
900	31	1,056	14.6	3.7	26	3.1
850	31	1,537	12.4	1.3	29	3.4
800	31	2,044	10.3	-2.5	30	3.2
750	31	2,579	7.8	-5.[illegible]	29	3.8
700	31	3,145	4.6	-9.0	29	5.1
650	31	3,745	1.0	-12.6	29	6.6
600	31	4,384	-2.3	-17.7	29	8.1
550	31	5,071	-6.2	-20.6	29	9.4
500	31	5,810	-10.7	-25.4	28	10.3
450	31	6,612	-16.3	-30.7	28	11.9
400	31	7,487	-22.7	-36.6	28	13.8
350	31	8,456	-29.8	-42.5	28	16.7
300	31	9,533	-38.1	-47.4	28	20.3
250	31	10,764	-47.0		28	23.8
200	31	12,213	-56.1		28	28.5
175	31	13,053	-60.4		28	27.5
150	31	14,004	-64.8		28	25.9
125	31	15,105	-69.0		28	21.8
100	30	16,428	-70.9		29	14.5
80	30	17,753	-69.0		28	7.8
70	30	18,559	-65.7		27	4.6
60	29	19,505	-62.0		26	3.9
50	29	20,640	-59.6		22	1.3
40	26	22,047	-57.9		11	.5
30	24	23,873	-55.8		07	1.3
25	24	25,039	-53.9		06	1.8
20	24	26,481	-51.3		06	2.5
15	23	28,368	-48.4		02	1.2
10	18	31,055	-44.3		02	2.0
7						

MCGRATH, AK
986 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	103	-2.9	-6.7	35	1.2
1000	5	179	2.1	-2.0		
950	31	400	-3.5	-7.5	03	1.8
900	31	826	-5.3	-8.4	07	2.7
850	31	1,274	-6.4	-10.7	10	2.6
800	31	1,747	-7.4	-12.8	13	1.[illegible]
750	31	2,247	-10.0	-15.8	16	2.5
700	31	2,777	-13.0	-19.3	18	4.2
650	31	3,338	-16.3	-21.7	19	5.0
600	31	3,936	-20.1	-26.0	18	5.0
550	31	4,576	-24.2	-30.4	18	6.0
500	31	5,265	-28.9	-35.2	18	6.[illegible]
450	31	6,010	-34.2	-40.7	18	7.0
400	31	6,824	-40.4	-44.6	18	7.7
350	31	7,725	-46.6		19	7.5
300	31	8,730	-52.8		19	[illegible].7
250	31	9,898	-55.2		20	8.5
200	31	11,334	-51.6		22	9.5
175	31	12,203	-50.7		23	[illegible].5
150	31	13,209	-50.2		23	[illegible].1
125	31	14,401	-50.0		23	9.8
100	31	15,859	-49.9		24	9.7
80	30	17,316	-50.5		24	10.4
70	30	18,186	-50.[illegible]		24	10.4
60	30	19,189	-51.2		24	10.3
50	30	20,373	-51.5		25	10.[illegible]
40	30	21,821	-52.1		25	10.2
30	30	23,683	-52.2		26	[illegible]
25	29	24,867	-52.2		26	9.9
20	27	26,311	-51.9		27	10.4
15	23	28,182	-51.3		27	12.5
10	16	30,830	-49.3		28	15.7
7	5	33,398	-44.[illegible]			

+ MAJURO, MARSHALL IS.
1 10 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	3	29.2	24.[illegible]	07	2.1
1000	31	94	27.8	24.0	08	2.4
950	31	549	24.1	22.3	09	3.3
900	31	1,022	21.3	18.6	11	3.5
850	31	1,516	18.6	14.5	11	3.7
800	31	2,036	16.0	11.1	10	3.4
750	31	2,583	13.4	7.3	10	3.6
700	31	3,162	1[illegible].5	3.6	10	3.5
650	31	3,777	7.2	-1.4	10	3.5
600	31	4,431	3.5	-5.2	11	3.6
550	31	5,133	-.4	-8.1	11	4.0
500	31	5,890	-4.5	-13.[illegible]	10	3.7
450	31	6,714	-8.9	-19.0	11	3.7
400	31	7,617	-14.3	-25.8	11	3.6
350	31	[illegible],619	-21.1	-31.5	10	3.3
300	31	[illegible],736	-29.2	-39.4	10	3.1
250	30	11,011	-39.6	-49.7	09	3.0
200	30	12,495	-52.5		03	2.7
175	30	13,345	-59.4		01	3.4
150	30	14,292	-67.4		02	2.4
125	30	15,372	-74.5		10	2.1
100	30	16,648	-79.9		09	4.9
80	30	17,923	-75.3		08	7.9
70	30	18,704	-72.0		09	10.5
60	30	19,621	-68.5		09	16.7
50	30	20,726	-64.1		09	21.6
40	30	22,114	-58.0		09	14.7
30	26	23,948	-52.8		09	1.3
25	24	25,138	-49.0		27	3.4
20	21	26,621	-46.6		26	5.5
15	19	28,542	-43.4		27	5.9
10	7	31,276	-39.7			
7						

• MEDFORD, OR
971 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	401	6.6	5.1	36	.3
1000						
950	31	583	9.4	6.5	30	.0
900	31	1,033	10.0	4.4	17	1.0
850	31	1,508	9.3	.2	18	2.5
800	31	2,008	6.9	-3.8	21	3.8
750	31	2,536	3.8	-6.8	22	5.9
700	31	3,093	.9	-13.1	24	6.6
650	31	3,686	-2.2	-17.1	24	8.1
600	31	4,317	-6.1	-19.4	25	9.2
550	31	4,992	-10.4	-22.3	25	10.7
500	31	5,719	-15.5	-26.6	26	11.7
450	31	6,506	-20.8	-30.4	26	13.4
400	31	7,367	-26.6	-36.4	26	14.1
350	31	8,320	-33.8	-43.4	27	15.8
300	31	9,379	-42.3	-50.4	27	16.3
250	31	10,588	-51.1		27	16.5
200	31	12,017	-57.0		27	18.5
175	31	12,859	-58.[illegible]		27	18.9
150	31	13,823	-60.2		26	17.7
125	31	14,956	-62.1		27	16.0
100	31	16,330	-63.6		27	14.2
80	30	17,703	-62.3		27	9.4
70	30	18,531	-61.2		27	8.0
60	30	19,490	-60.5		27	6.7
50	30	20,629	-59.3		27	5.8
40	30	22,029	-58.4		28	4.9
30	30	23,847	-56.7		27	4.1
25	30	25,006	-55.2		27	5.6
20	30	26,438	-53.2		27	6.3
15	28	28,306	-51.2		27	6.7
10	17	30,953	-49.5		27	7.3
7						
5						

MERIDA, MEXICO
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	11	21.2	20.7	06	.4
1000	31	128	23.4	20.5	08	2.4
950	31	576	21.5	18.3	09	4.[illegible]
900	31	1,044	19.2	13.5	08	3.2
850	31	1,534	16.8	9.1	07	[illegible].3
800	31	2,050	14.1	6.4	08	[illegible].2
750	31	2,593	12.[illegible]	1.8	08	[illegible]
700	31	3,168	9.1	-4.2	11	.9
650	31	3,779	6.0	-8.1	06	.6
600	31	4,430	2.3	-10.8	03	.4
550	31	5,128	-1.5	-17.6	36	1.4
500	31	5,881	-5.[illegible]	-22.9	32	1.[illegible]
450	31	6,698	-11.2	-27.4	30	2.5
400	31	7,592	-17.3	-31.0	30	2.9
350	31	8,583	-24.1	-37.3	30	4.3
300	31	9,685	-32.[illegible]	-45.8	31	6.4
250	31	10,942	-42.9		30	9.2
200	31	12,409	-54.2		31	11.9
175	31	13,254	-60.1		31	10.5
150	31	14,202	-66.6		30	10.1
125	31	15,288	-73.0		29	10.1
100	31	16,578	-76.6		31	5.1
80	31	17,877	-70.9		02	2.1
70	31	18,677	-67.4		09	3.[illegible]
60	30	19,610	-65.1		10	5.6
50	29	20,730	-61.7		09	6.6
40	29	22,121	-59.3		09	8.1
30	28	23,938	-55.9		08	11.2
25	26	25,109	-53.[illegible]		09	11.3
20	26	26,559	-49.[illegible]		08	9.7
15	23	28,462	-45.9		08	7.9
10	10	31,218	-40.2			
7						
5						

MIDLAND, TX
918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	874	13.6	8.0	15	1.4
1000						
950						
900	30	1,040	15.9	7.6	19	3.4
850	30	1,527	16.1	4.3	22	3.6
800	30	2,040	13.5	.7	25	3.2
750	30	2,580	10.4	-1.5	26	3.7
700	30	3,151	6.5	-5.0	26	4.5
650	30	3,755	2.6	-8.1	27	5.1
600	30	4,398	-1.4	-13.5	27	5.8
550	30	5,086	-5.5	-19.3	27	7.2
500	30	5,827	-10.4	-23.3	27	7.2
450	30	6,630	-15.9	-28.5	27	8.9
400	30	7,507	-22.2	-33.5	27	10.8
350	30	8,478	-29.2	-39.8	27	13.6
300	30	9,559	-37.4	-45.[illegible]	27	16.3
250	30	10,793	-46.5		26	19.9
200	30	12,243	-55.1		27	24.6
175	30	13,088	-59.6		27	25.5
150	30	14,042	-64.1		27	24.8
125	30	15,145	-68.8		27	20.3
100	29	16,468	-70.9		28	13.6
80	29	17,792	-69.5		28	8.1
70	29	18,594	-66.4		28	4.0
60	28	19,535	-63.3		27	3.6
50	28	20,666	-59.8		26	2.7
40	28	22,067	-58.4		24	.6
30	28	23,886	-56.1		07	1.9
25	28	25,049	-54.6		07	3.6
20	27	26,482	-52.4		08	2.0
15	25	28,356	-50.2		04	.7
10	23	31,036	-46.1		34	2.9
7	19	33,439	-41.9		27	5.1
5	6	35,685	-39.3			

MONTERREY, MEXICO
965 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	423	18.6	17.0	35	.6
1000						
950	31	588	19.1	16.6	06	.9
900	31	1,052	17.1	13.4	12	2.3
850	31	1,540	15.8	8.6	13	4.[illegible]
800	31	2,055	14.7	1.4	12	3.0
750	31	2,599	12.2	-.8	14	1.2
700	31	3,173	[illegible].6	-4.6	26	1.1
650	31	3,783	4.9	-7.[illegible]	28	2.5
600	31	4,430	.6	-11.9	28	3.9
550	31	5,123	-3.7	-17.2	26	5.0
500	31	5,870	-8.3	-23.0	26	5.6
450	31	6,679	-13.6	-27.8	26	7.0
400	31	7,565	-19.4	-33.1	26	9.9
350	31	8,547	-26.3	-38.7	26	11.9
300	31	9,640	-34.5	-46.4	26	16.5
250	31	10,890	-44.1		26	19.6
200	31	12,351	-55.0		27	21.4
175	30	13,188	-61.2		26	21.4
150	30	14,129	-67.8		26	18.7
125	30	15,211	-73.2		27	14.3
100	30	16,504	-76.3		27	8.2
80	30	17,803	-72.0		28	3.6
70	29	18,597	-68.6		30	1.[illegible]
60	29	19,531	-64.6		11	.9
50	29	20,653	-62.2		10	2.7
40	27	22,047	-59.4		08	[illegible].4
30	27	23,859	-56.4		07	4.4
25	27	25,022	-55.0		07	6.[illegible]
20	27	26,458	-51.6		08	7.3
15	25	28,345	-47.8		08	5.7
10	21	31,047	-43.3		05	2.2
7	5	33,512	-39.0			
5						

MONETT, MO
967 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	438	1[illegible].3	7.8	16	1.2
1000						
950	31	589	13.4	7.3	21	1.6
900	31	1,044	12.4	3.9	26	4.9
850	31	1,522	10.7	.0	28	6.7
800	31	2,026	8.3	-3.0	29	7.1
750	31	2,557	5.9	-8.0	29	7.5
700	31	3,118	2.7	-10.1	29	8.4
650	31	3,714	-.6	-12.6	28	8.8
600	31	4,350	-4.0	-16.7	28	10.1
550	31	5,031	-8.2	-21.3	29	11.6
500	31	5,765	-12.9	-25.3	29	12.8
450	31	6,560	-18.2	-31.8	29	14.2
400	31	7,429	-24.6	-37.1	29	16.1
350	31	8,389	-31.9	-43.3	29	18.1
300	31	9,457	-40.4	-49.0	29	19.2
250	31	10,677	-48.9		28	23.7
200	30	12,121	-56.0		28	26.8
175	30	12,964	-59.1		28	27.9
150	30	13,924	-61.9		28	25.6
125	30	15,042	-65.0		28	20.4
100	30	16,397	-66.9		28	13.3
80	30	17,749	-65.1		28	8.5
70	30	18,567	-62.6		27	6.0
60	30	19,524	-6[illegible].4		27	4.0
50	30	20,666	-58.2		26	3.2
40	29	22,079	-56.8		27	1.5
30	29	23,908	-55.4		01	.3
25	28	25,074	-53.3		08	.8
20	28	26,517	-51.4		31	.5
15	28	28,393	-49.7		30	1.9
10	21	31,085	-46.4		27	5.1
7	9	33,449	-43.5			
5						

RAWINSONDE DATA

Average monthly values

OCTOBER 1977

NASHVILLE, TN
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	180	9.8	7.7	20	.3
1000	14	200	8.2	4.2	04	.2
950	31	594	11.4	5.2	26	1.1
900	31	1,044	9.0	2.4	29	2.5
850	31	1,517	7.6	-3.5	30	4.8
800	31	2,016	6.6	-9.0	30	5.9
750	31	2,543	4.4	-11.0	30	7.1
700	31	3,102	1.4	-14.1	30	8.1
650	31	3,696	-1.4	-17.3	29	8.7
600	31	4,329	-5.0	-20.2	29	9.8
550	31	5,008	-9.2	-24.5	29	11.1
500	31	5,738	-14.1	-28.0	28	12.3
450	31	6,530	-19.4	-32.7	28	14.1
400	31	7,395	-25.4	-37.2	29	16.1
350	31	8,353	-32.2	-42.8	29	18.7
300	30	9,421	-40.0	-48.0	29	20.6
250	30	10,645	-47.7		29	24.8
200	30	12,091	-55.7		28	27.7
175	30	12,935	-58.8		28	26.9
150	30	13,897	-61.3		28	25.3
125	30	15,020	-64.2		28	19.2
100	30	16,381	-65.2		27	12.6
80	30	17,743	-63.8		27	8.0
70	30	18,566	-62.1		26	6.7
60	30	19,525	-59.9		26	4.5
50	30	20,668	-58.6		26	2.4
40	30	22,074	-57.4		35	.8
30	30	23,901	-55.1		09	1.9
25	30	25,070	-53.5		06	2.1
20	28	26,507	-51.6		10	1.8
15	27	28,387	-49.3		30	1.4
10	23	31,067	-46.1		29	3.7
7	5	33,457	-44.1			

* NOME, AK
999 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	5	-3.2	-6.3	04	1.3
1000	14	77	-.9	-5.6	13	.7
950	31	405	-4.1	-7.8	04	2.0
900	31	830	-6.8	-9.8	06	1.2
850	31	1,274	-8.9	-13.0	05	1.2
800	31	1,742	-10.9	-16.9	01	.6
750	31	2,236	-13.2	-20.4	33	.4
700	31	2,759	-16.1	-22.4	22	1.2
650	31	3,314	-19.3	-26.0	23	1.8
600	31	3,904	-23.0	-29.6	24	2.2
550	31	4,537	-27.1	-33.8	22	2.5
500	31	5,218	-31.5	-38.5	21	3.2
450	31	5,956	-36.7	-41.1	20	3.7
400	31	6,762	-42.3	-42.3	20	4.[illegible]
350	31	7,656	-47.9		20	6.2
300	31	8,659	-53.1		20	7.[illegible]
250	31	9,827	-54.4		21	7.3
200	31	11,268	-51.2		22	7.1
175	31	12,137	-50.7		23	7.4
150	31	13,143	-50.2		23	[illegible].0
125	31	14,335	-49.8		23	8.1
100	31	15,795	-50.3		24	9.5
80	31	17,250	-50.6		24	9.7
70	31	18,120	-51.0		24	10.6
60	31	19,123	-51.1		25	11.0
50	31	20,309	-50.8		25	11.4
40	30	21,761	-51.5		25	11.1
30	29	23,624	-51.6		26	12.1
25	29	24,807	-51.5		26	12.2
20	28	26,257	-51.1		26	12.3
15	26	28,136	-49.9		27	13.5
10	9	30,785	-47.[illegible]			
7						

NORTH PLATTE, NE
920 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	847	4.3	1.0	34	1.1
1000						
950						
900	31	1,024	8.1	2.0	33	2.1
850	31	1,498	9.3	-1.0	32	4.5
800	31	1,999	7.7	-3.6	31	4.9
750	31	2,529	5.4	-7.[illegible]	30	6.8
700	31	3,090	2.0	-12.[illegible]	30	8.8
650	31	3,684	-1.3	-15.4	30	10.0
600	31	4,317	-5.7	-19.2	29	11.2
550	31	4,994	-10.0	-22.9	29	12.1
500	31	5,722	-15.0	-26.7	29	13.2
450	31	6,510	-20.4	-33.4	29	15.6
400	31	7,372	-26.7	-39.[illegible]	29	18.1
350	31	8,324	-34.0	-45.3	29	19.3
300	31	9,383	-42.0	-48.4	29	20.8
250	31	10,595	-50.3		29	22.1
200	31	12,030	-55.9		29	23.9
175	31	12,876	-57.9		28	21.2
150	30	13,842	-60.1		29	19.0
125	30	14,973	-62.5		29	15.6
100	30	16,345	-63.5		28	10.2
80	29	17,713	-63.3		29	7.7
70	29	18,538	-61.3		29	5.8
60	28	19,497	-60.1		28	3.9
50	28	20,639	-58.4		28	[illegible]
40	28	22,049	-56.5		27	[illegible]
30	28	23,884	-54.6		26	3.1
25	27	25,056	-53.6		25	2.6
20	27	26,496	-52.2		28	3.1
15	24	28,370	-50.9		27	5.[illegible]
10	15	31,072	-47.2		27	7.[illegible]
7	6	33,466	-44.0			

OAKLAND, CA
1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	6	12.6	10.7	25	.4
1000	31	136	13.3	11.0	26	.7
950	31	569	14.5	4.1	30	1.6
900	31	1,027	15.0	-2.3	30	1.9
850	31	1,509	13.0	-4.8	28	1.8
800	31	2,016	10.4	-8.8	26	3.1
750	31	2,550	7.7	-13.0	26	3.4
700	30	3,115	4.2	-14.6	25	4.3
650	30	3,714	.6	-17.5	26	5.0
600	30	4,351	-3.5	-21.1	25	6.1
550	30	5,033	-7.8	-23.5	26	6.8
500	30	5,767	-12.6	-28.4	27	8.3
450	29	6,564	-18.3	-31.7	27	9.1
400	29	7,432	-24.8	-37.6	26	10.1
350	29	8,392	-32.3	-44.9	26	10.[illegible]
300	29	9,457	-40.9	-49.6	26	11.4
250	29	10,674	-49.8		26	13.5
200	29	12,111	-56.2		26	16.6
175	29	12,954	-58.9		26	18.5
150	29	13,916	-61.1		26	17.1
125	29	15,041	-63.9		26	15.2
100	29	16,398	-66.1		26	12.2
80	27	17,751	-65.2		27	8.4
70	27	18,568	-63.5		27	[illegible].5
60	27	19,519	-62.0		28	3.9
50	26	20,654	-60.5		28	3.8
40	25	22,056	-57.9		28	3.4
30	23	23,883	-55.0		28	3.4
25	23	25,052	-53.9		27	4.2
20	22	26,487	-52.0		26	4.8
15	16	28,358	-50.0		26	6.3
10	12	31,027	-47.8		27	8.2
7						

OMAHA, NE
969 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	403	7.5	5.3	33	.3
1000						
950	31	568	9.5	4.2	34	.4
900	31	1,017	9.7	.8	29	2.1
850	31	1,491	8.7	-2.9	29	4.1
800	31	1,991	6.4	-5.5	29	5.3
750	31	2,518	3.7	-9.4	29	6.9
700	31	3,075	.9	-13.2	29	7.7
650	31	3,668	-2.5	-15.4	29	8.7
600	31	4,298	-6.3	-19.9	29	10.2
550	31	4,973	-1[illegible].9	-24.[illegible]	29	11.6
500	31	5,698	-16.0	-29.9	29	13.1
450	31	6,484	-21.3	-35.0	29	14.5
400	31	7,342	-27.2	-38.7	28	16.4
350	31	8,293	-34.3	-45.3	29	18.2
300	31	[illegible],352	-41.9	-49.8	28	21.3
250	31	10,566	-49.7		28	23.7
200	31	12,006	-55.8		28	25.5
175	31	12,853	-57.7		28	24.5
150	31	13,822	-59.8		28	20.9
125	31	14,958	-61.8		28	17.8
100	30	16,336	-63.2		28	12.1
80	30	17,710	-62.5		28	8.0
70	30	18,536	-61.3		28	5.6
60	30	19,497	-59.8		28	5.0
50	28	20,643	-57.8		27	3.8
40	28	22,055	-56.6		26	4.6
30	27	23,889	-55.1		25	3.2
25	26	25,058	-54.0		26	3.3
20	25	26,497	-52.7		27	3.4
15	23	28,366	-51.2		28	5.4
10	15	31,014	-48.6		28	9.9
7	8	33,374	-46.8			

PAGO PAGO, AMERICAN SAMOA
+ 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	5	28.3	23.7	11	5.4
1000	31	112	25.9	22.6	11	5.9
950	31	563	22.3	20.6	11	6.5
900	31	1,033	18.8	17.0	10	5.9
850	31	1,523	16.7	14.0	08	5.[illegible]
800	31	2,040	15.0	8.5	06	3.1
750	31	2,585	12.6	4.7	02	2.8
700	31	3,162	9.3	-.3	35	2.6
650	31	3,774	6.1	-3.9	32	3.0
600	31	4,425	2.3	-8.3	30	4.6
550	31	5,124	-1.4	-12.6	31	6.3
500	31	5,878	-5.5	-19.7	30	6.9
450	31	6,697	-10.2	-23.7	30	7.2
400	31	7,595	-16.2	-30.1	28	9.7
350	31	8,590	-22.6	-36.3	28	11.0
300	31	9,701	-30.8	-44.4	27	12.0
250	31	10,968	-41.0		27	14.1
200	30	12,447	-53.4		26	15.3
175	30	13,293	-60.1		26	15.4
150	30	14,239	-67.2		26	14.5
125	30	15,318	-74.7		27	12.[illegible]
100	30	16,596	-79.5		27	7.4
80	30	17,869	-76.2		02	.2
70	29	18,650	-70.9		09	4.7
60	29	19,574	-66.5		09	9.1
50	29	20,689	-62.3		09	13.3
40	29	22,077	-60.0		09	14.3
30	29	23,885	-56.5		08	10.8
25	29	25,050	-53.6		08	[illegible].6
20	29	26,497	-50.1		08	2.2
15	27	28,400	-45.2		29	3.4
10	23	31,144	-40.1		27	8.1
7	6	33,619	-35.3			

* PEORIA, IL
994 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	200	7.0	4.2	18	.3
1000	5	214	4.7	.7		
950	31	579	9.[illegible]	3.1	26	[illegible].3
900	31	1,027	[illegible].2	-.6	28	4.4
850	31	1,498	6.3	-4.5	28	5.8
800	31	1,993	4.4	-7.5	29	7.1
750	31	2,517	2.0	-11.3	29	7.2
700	31	3,071	-.6	-14.1	29	[illegible].4
650	31	3,660	-3.7	-17.0	29	9.2
600	31	4,288	-6.7	-21.7	29	10.6
550	31	4,963	-10.6	-24.6	28	12.9
500	31	5,689	-15.7	-28.1	28	13.9
450	31	6,476	-21.0	-33.2	29	15.7
400	31	7,335	-27.4	-37.9	29	17.1
350	31	8,286	-34.3	-44.1	28	18.8
300	31	9,343	-42.4	-49.8	28	19.7
250	31	10,553	-50.3		28	23.2
200	31	11,989	-56.1		29	24.9
175	31	12,835	-57.3		29	23.8
150	31	13,805	-59.3		29	20.4
125	31	14,941	-61.5		29	16.4
100	31	16,319	-62.8		28	11.7
80	31	17,694	-62.1		29	7.6
70	31	18,523	-60.5		28	6.[illegible]
60	31	19,487	-59.2		27	4.[illegible]
50	31	20,634	-57.7		26	4.2
40	30	22,046	-56.9		27	3.5
30	30	23,877	-55.0		27	1.5
25	30	25,046	-53.7		25	1.7
20	30	26,485	-52.3		27	2.5
15	27	28,354	-51.1		28	4.2
10	21	31,000	-48.3		28	9.4
7						

* PITTSBURGH, PA
975 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	359	7.1	3.7	23	.6
1000						
950	31	576	8.3	4.2	25	2.0
900	31	1,022	6.5	1.7	28	3.7
850	31	1,490	4.5	-2.[illegible]	29	4.4
800	31	1,982	2.4	-5.[illegible]	28	5.5
750	31	2,503	.7	-9.7	27	[illegible]
700	31	3,054	-1.9	-12.9	28	7.8
650	31	3,641	-4.5	-15.6	27	9.2
600	31	4,268	-7.9	-20.1	28	10.5
550	31	4,939	-11.9	-23.2	28	11.0
500	31	5,663	-16.2	-27.5	27	11.8
450	31	6,448	-21.6	-32.7	27	13.8
400	31	7,305	-27.7	-39.8	26	14.8
350	31	8,254	-34.8	-44.8	26	16.3
300	31	9,310	-42.2	-48.5	27	19.3
250	31	10,524	-49.3		27	22.1
200	31	11,965	-55.5		27	22.3
175	30	12,812	-56.7		28	20.3
150	30	13,787	-58.0		28	17.4
125	30	14,930	-60.2		27	13.7
100	29	16,316	-61.5		27	10.4
80	28	17,703	-60.6		26	8.2
70	27	18,538	-58.8		26	6.5
60	26	19,512	-57.8		25	4.4
50	25	20,666	-57.0		25	3.1
40	25	22,081	-56.6		25	1.[illegible]
30	24	23,919	-54.6		17	.2
25	21	25,079	-53.5		09	.1
20	19	26,511	-52.7		33	.6
15	10	28,377	-51.3			
10						
7						

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	39	28.5	24.6	30	.3
1000	31	81	27.1	23.3	26	.4
950	31	535	23.9	21.1	23	1.[illegible]
900	31	1,007	20.9	18.0	24	1.6
850	31	1,501	17.9	14.4	23	1.0
800	31	2,019	15.[illegible]	11.4	20	1.3
750	31	2,565	13.0	7.3	15	1.2
700	31	3,143	[illegible].8	4.3	14	1.6
650	31	3,756	6.6	-.2	11	1.7
600	31	4,410	3.[illegible]	-3.6	10	2.2
550	31	5,111	-.[illegible]	-7.9	09	2.8
500	31	5,867	-4.8	-12.9	09	2.7
450	31	6,689	-9.4	-18.1	08	2.7
400	31	7,590	-15.0	-25.1	08	3.4
350	31	8,590	-21.6	-33.2	08	3.7
300	31	9,704	-30.[illegible]	-41.6	08	3.[illegible]
250	31	10,974	-40.6	-48.7	07	5.3
200	31	12,452	-53.4		06	6.4
175	30	13,300	-60.6		06	6.8
150	30	14,241	-68.[illegible]		06	[illegible].1
125	29	15,311	-76.7		07	7.6
100	29	16,573	-81.4		07	6.8
80	28	17,837	-77.0		09	9.4
70	28	18,612	-73.0		09	11.7
60	28	19,524	-69.4		09	16.[illegible]
50	28	20,627	-64.1		09	21.[illegible]
40	28	22,012	-58.7		09	15.[illegible]
30	27	23,842	-53.0		08	2.1
25	26	25,023	-51.1		25	3.6
20	24	26,485	-47.9		26	6.4
15	21	28,395	-45.4		26	4.1
10	10	31,123	-39.7			
7						

PORTLAND, ME
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	20	5.6	[illegible].9	32	1.3
1000	29	140	7.8	2.1	33	2.1
950	31	552	7.6	.6	32	2.6
900	31	996	5.8	-1.6	29	3.3
850	31	1,463	4.3	-6.0	28	4.9
800	31	1,955	2.5	-8.5	27	5.8
750	31	[illegible],475	.1	-10.9	27	7.3
700	31	3,025	-2.2	-14.7	26	9.7
650	31	[illegible],611	-5.1	-18.0	26	11.3
600	31	4,235	-8.7	-20.7	26	13.5
550	31	4,905	-12.4	-24.3	27	14.1
500	31	[illegible],627	-16.8	-29.0	27	16.6
450	31	6,410	-22.1	-33.[illegible]	26	18.3
400	31	7,266	-28.2	-39.3	26	20.1
350	31	8,213	-35.0	-44.2	26	22.4
300	31	[illegible],269	-42.4	-49.5	25	24.6
250	31	10,483	-49.1		25	26.0
200	31	11,926	-55.1		25	27.5
175	31	12,777	-55.9		26	25.1
150	31	13,755	-57.2		26	21.4
125	31	14,903	-59.0		25	18.7
100	31	16,302	-59.1		25	14.8
80	31	17,703	-58.7		26	10.1
70	31	18,544	-57.7		25	7.8
60	31	19,519	-57.0		25	6.7
50	31	20,675	-56.4		26	4.9
40	30	22,098	-55.3		25	3.7
30	30	23,936	-54.9		25	2.7
25	27	25,092	-54.1		27	3.9
20	25	26,513	-53.6		27	5.4
15	20	28,370	-52.2		28	6.8
10	13	31,015	-49.6			
7						

* QUILLAYUTE, WA
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	58	6.6	5.6	11	1.0
1000	26	161	[illegible].6	6.6	11	1.5
950	31	567	8.5	4.1	19	3.9
900	31	1,012	6.2	-1.3	21	4.9
850	31	1,479	3.9	-4.8	22	5.3
800	31	1,970	1.6	-7.9	22	6.6
750	31	2,488	-1.0	-11.9	24	8.1
700	31	3,035	-3.8	-14.8	24	9.5
650	31	3,618	-6.9	-16.9	24	11.5
600	31	4,239	-10.2	-21.4	25	12.4
550	31	4,904	-14.4	-24.4	25	13.7
500	31	5,620	-19.4	-28.9	25	15.8
450	31	6,395	-24.8	-33.4	25	16.8
400	31	7,241	-30.8	-39.9	25	17.8
350	31	8,179	-37.3	-42.3	26	19.0
300	31	9,225	-44.7		26	21.8
250	31	10,424	-52.3		27	21.0
200	31	11,851	-56.4		27	22.1
175	31	12,697	-57.4		27	21.0
150	31	13,670	-58.3		27	19.9
125	31	14,816	-58.8		26	17.2
100	31	16,215	-59.3		26	13.7
80	31	17,614	-58.9		26	10.3
70	30	18,452	-58.7		26	9.1
60	28	19,423	-58.7		27	8.0
50	28	20,571	-58.0		27	5.6
40	26	21,985	-57.3		27	4.9
30	25	23,815	-55.4		26	3.6
25	24	24,980	-54.8		26	4.[illegible]
20	20	26,418	-53.5		26	4.8
15	16	28,270	-52.5		28	5.4
10	8	30,967	-48.4			
7						

RAPID CITY, SD
906 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	966	5.1	.7	31	1.0
1000						
950						
900	26	1,042	7.0	.5	31	1.2
850	31	1,496	8.1	-3.0	31	3.9
800	31	1,995	5.9	-5.7	31	5.4
750	31	2,521	3.4	-7.9	30	8.0
700	31	3,078	.5	-10.7	30	9.1
650	31	3,669	-3.1	-14.6	29	10.0
600	31	4,299	-6.7	-18.7	29	11.1
550	31	4,973	-11.2	-23.6	29	12.0
500	31	5,698	-15.9	-28.5	29	12.[illegible]
450	31	6,483	-21.6	-33.3	29	13.5
400	31	7,339	-28.5	-39.5	29	14.7
350	31	8,285	-35.8	-45.7	29	15.2
300	31	9,335	-43.9		29	17.2
250	31	10,539	-51.5		29	19.8
200	31	11,971	-56.2		28	21.2
175	31	12,816	-57.9		28	20.3
150	31	13,784	-59.4		28	20.2
125	31	14,919	-61.8		28	17.1
100	31	16,296	-62.6		28	13.[illegible]
80	31	17,675	-61.6		28	8.5
70	31	18,504	-60.7		29	6.1
60	31	19,465	-60.0		29	4.4
50	31	20,607	-59.0		28	4.2
40	31	22,010	-57.6		27	4.5
30	31	23,837	-55.8		27	5.0
25	31	25,001	-54.6		27	5.7
20	31	26,432	-54.[illegible]		27	6.1
15	24	28,280	-53.0		27	7.4
10	14	30,935	-50.0		28	12.0
7						

ST CLOUD, MN
980 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	316	3.6	1.[illegible]	32	.7
1000						
950	31	569	7.2	.7	31	1.[illegible]
900	31	1,013	5.9	-2.6	32	3.1
850	31	1,479	4.0	-4.[illegible]	32	4.0
800	31	1,971	2.4	-8.5	31	4.7
750	31	2,491	.1	-11.5	30	[illegible].1
700	31	3,041	-2.6	-14.4	30	6.3
650	31	3,626	-5.3	-18.4	30	[illegible].2
600	31	4,250	-8.8	-21.9	30	9.5
550	31	4,918	-13.3	-25.4	30	10.4
500	31	5,637	-18.3	-29.5	30	12.2
450	31	6,416	-23.4	-35.1	29	13.6
400	31	7,267	-29.6	-39.5	29	14.9
350	31	8,208	-36.8	-45.8	29	16.8
300	31	9,255	-44.5		29	18.6
250	31	10,456	-51.7		29	20.2
200	31	11,889	-55.6		29	22.2
175	30	12,737	-56.5		29	20.5
150	30	13,712	-57.8		28	19.4
125	30	14,858	-59.3		28	17.0
100	30	16,253	-60.0		28	12.9
80	30	17,647	-59.6		28	9.6
70	29	18,484	-58.9		28	7.9
60	29	19,452	-58.5		28	5.9
50	29	20,600	-58.1		28	5.1
40	29	22,010	-57.1		27	5.4
30	29	23,840	-55.1		26	6.[illegible]
25	29	25,006	-54.6		26	6.1
20	29	26,439	-53.1		27	7.[illegible]
15	29	28,297	-52.4		27	[illegible].5
10	25	30,944	-50.2		27	11.7
7	7	33,355	-45.3			

* ST PAUL ISLAND, AK
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	30	10	3.1	-2.0	31	3.0
1000	19	78	4.0	-1.3		
950	30	441	.3	-2.9	28	4.7
900	30	872	-3.3	-4.9	28	5.1
850	30	1,322	-6.4	-9.1	28	[illegible].6
800	30	1,794	-9.2	-14.1	28	[illegible].9
750	30	2,290	-11.9	-20.8	28	[illegible].1
700	30	2,816	-14.8	-23.1	28	[illegible]
650	30	3,373	-18.0	-27.4	28	6.[illegible]
600	30	3,967	-21.6	-31.1	27	8.2
550	30	4,603	-25.[illegible]	-35.6	27	10.2
500	30	5,287	-30.3	-39.4	27	8.6
450	30	6,029	-35.5	-44.3	26	9.1
400	29	6,845	-41.[illegible]	-46.3	26	9.9
350	29	7,745	-46.4		26	10.3
300	28	8,755	-50.8			
250	28	9,938	-52.0			
200	28	11,389	-50.1			
175	28	12,262	-49.6			
150	28	13,271	-49.7			
125	28	14,463	-50.3			
100	28	15,918	-50.[illegible]			
80	28	17,371	-51.0			
70	28	18,240	-51.2			
60	27	19,248	-51.8			
50	27	20,430	-51.9			
40	27	21,877	-52.1			
30	26	23,746	-51.7			
25	25	24,937	-51.4		30	6.4
20	23	26,396	-51.1			
15	21	28,280	-50.5			
10	19	30,944	-49.6		34	7.7
7	8	33,321	-46.3			

SALEM, IL
998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature C	Dew Point C	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	174	8.2	[illegible].2	13	.2
1000	14	190	8.8	4.2	10	.5
950	31	583	11.2	3.[illegible]	27	2.7
900	31	1,033	9.1	.1	29	3.9
850	31	1,505	7.6	-5.7	29	5.9
800	31	2,003	5.9	-9.2	30	7.1
750	31	2,529	3.1	-11.3	30	7.5
700	31	[illegible],086	.7	-14.2	29	8.7
650	31	3,678	-2.3	-15.[illegible]	29	9.7
600	31	4,310	-5.5	-21.4	29	10.3
550	31	4,987	-9.7	-23.6	29	11.9
500	31	5,716	-14.5	-28.1	29	13.5
450	31	6,506	-20.0	-32.5	29	14.3
400	31	7,369	-26.3	-37.[illegible]	29	15.3
350	31	8,325	-32.9	-43.0	29	18.4
300	31	[illegible],388	-41.0	-47.5	29	20.5
250	31	10,606	-49.2		28	23.4
200	31	12,046	-55.7		28	26.3
175	31	12,893	-57.7		28	25.1
150	31	13,860	-59.9		28	22.1
125	31	14,992	-62.4		29	17.3
100	31	16,365	-63.7		28	12.0
80	29	17,737	-61.6		26	8.3
70	29	18,567	-60.3		27	6.0
60	29	19,531	-58.9		27	5.0
50	28	20,682	-57.2		26	3.6
40	28	22,097	-55.9		27	1.8
30	27	23,936	-54.3		05	.6
25	26	25,106	-53.0		10	1.0
20	25	26,555	-51.5		15	.4
15	25	28,434	-49.1		29	3.7
10	23	31,108	-47.3		27	6.3
7	7	33,490	-43.8			

RAWINSONDE DATA

Average monthly values

OCTOBER 1977

SALEM, OR
1011 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	61	8.3	5.8	21	1.0
1000	31	149	10.0	7.5	20	.6
950	31	576	10.4	5.6	19	.9
900	31	1,026	9.2	1.5	22	2.8
850	31	1,498	6.9	-1.9	24	4.6
800	31	1,995	4.9	-6.5	24	6.1
750	31	2,519	2.2	-11.4	24	7.2
700	31	3,073	-.7	-14.9	24	8.7
650	31	3,661	-3.9	-18.4	25	9.4
600	31	4,288	-7.9	-20.7	25	10.4
550	31	4,959	-12.3	-24.5	25	12.4
500	31	5,681	-16.9	-27.9	26	14.3
450	31	6,464	-22.0	-31.3	26	15.6
400	31	7,31[illegible]	-28.1	-37.1	26	16.9
350	31	8,268	-34.7	-43.7	27	18.2
300	31	9,324	-43.0	-48.7	27	20.0
250	31	10,530	-51.3		27	20.1
200	31	11,958	-57.2		27	17.6
175	31	12,800	-58.7		27	16.9
150	31	13,767	-59.2		27	17.0
125	31	14,905	-61.0		27	15.5
100	31	16,289	-61.0		27	12.4
80	30	17,676	-60.9		27	9.8
70	30	18,509	-59.[illegible]		27	8.2
60	29	19,475	-59.5		27	7.6
50	29	20,619	-58.6		28	6.0
40	27	22,022	-58.4		27	4.7
30	28	23,835	-56.3		28	3.7
25	27	24,997	-55.3		28	4.1
20	27	26,426	-53.6		28	4.7
15	21	28,291	-51.9		29	3.0
10	14	30,965	-47.8			
7						

SALT LAKE CITY, UT
874 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	1,288	8.0	1.8	14	2.4
1000						
950						
900						
850	31	1,517	11.8	-1.6	17	2.6
800	31	2,063	9.9	-4.2	19	2.8
750	31	2,556	6.2	-7.1	23	3.0
700	31	3,127	2.1	-9.9	26	4.6
650	31	3,711	-2.1	-13.4	27	6.5
600	31	4,342	-6.1	-17.7	27	7.4
550	31	5,019	-9.9	-22.2	27	8.9
500	31	5,747	-14.7	-25.6	27	10.9
450	31	6,537	-20.1	-31.6	27	12.3
400	31	7,399	-26.4	-37.8	27	13.6
350	31	8,352	-34.0	-45.0	27	14.6
300	31	9,410	-42.4	-48.8	26	15.3
250	31	10,619	-51.0		26	15.7
200	31	12,050	-57.0		27	17.3
175	31	12,891	-59.0		26	17.2
150	31	13,853	-61.2		27	16.2
125	31	14,978	-64.0		27	13.3
100	31	16,340	-64.9		28	10.4
80	31	17,703	-64.2		29	7.0
70	31	18,524	-62.7		28	5.7
60	31	19,475	-62.0		29	5.5
50	31	20,609	-60.1		29	3.3
40	31	22,009	-58.2		29	3.3
30	29	23,831	-56.0		28	4.9
25	29	24,996	-54.5		27	5.1
20	28	26,430	-53.0		27	5.0
15	25	28,305	-51.8		28	7.7
10	20	30,987	-49.0		27	12.4
7						

SAN DIEGO, CA
10[illegible]0 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	1[illegible]4	15.9	14.6	36	.5
1000	20	[illegible]	15.5	14.0	36	.5
950	31	558	18.2	7.5	01	.3
900	31	1,021	18.5	1.5	03	.2
850	31	1,51[illegible]	17.0	-3.5	19	.8
800	31	2,024	13.9	-6.6	21	1.0
750	31	2,564	10.5	-9.6	24	.9
700	31	3,134	6.[illegible]	-13.7	27	1.5
650	31	3,738	3.1	-15.9	26	3.0
600	31	4,381	-1.0	-19.5	26	4.0
550	31	5,070	-5.6	-23.5	26	4.8
500	31	5,810	-10.7	-28.2	26	5.6
450	31	6,611	-16.3	-33.3	27	7.4
400	31	7,486	-23.0	-37.1	26	9.1
350	31	8,453	-30.3	-43.1	26	11.4
300	31	9,528	-38.3	-50.2	26	14.[illegible]
250	31	10,760	-46.6		26	18.1
200	31	12,214	-54.7		26	20.3
175	31	13,061	-58.8		26	21.1
150	31	14,019	-62.9		25	19.3
125	31	15,130	-67.0		26	16.8
100	31	16,469	-69.4		27	10.7
80	31	17,804	-67.7		28	6.8
70	31	18,612	-65.6		29	5.0
60	30	19,556	-63.0		31	2.[illegible]
50	29	20,687	-59.8		28	1.1
40	29	22,087	-58.2		35	.7
30	27	23,910	-55.7		08	2.1
25	27	25,077	-53.7		08	2.9
20	25	26,526	-51.4		07	4.2
15	22	28,414	-49.4		09	2.4
10	14	31,097	-46.4			
7						

SAN JUAN, P. R.
[illegible] MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	6	24.5	23.0	12	1.7
1000	31	127	24.8	21.5	12	3.3
950	31	577	22.1	18.8	12	6.9
900	31	1,047	19.3	15.2	12	7.3
850	31	1,537	16.3	12.1	12	6.3
800	31	2,052	14.0	8.3	12	5.2
750	31	2,595	11.3	3.8	12	4.3
700	31	3,169	8.3	-.3	12	3.7
650	31	3,778	5.[illegible]	-5.8	12	3.2
600	31	4,428	1.5	-11.2	13	3.5
550	31	5,123	-2.6	-16.4	12	3.3
500	31	5,873	-7.0	-21.6	13	2.4
450	31	6,687	-12.1	-26.4	13	1.5
400	31	7,578	-17.7	-30.7	08	.8
350	31	8,567	-24.6	-37.[illegible]	02	1.4
300	31	9,668	-33.1	-46.7	34	3.0
250	31	10,923	-43.[illegible]		33	6.3
200	31	12,388	-55.0		32	9.8
175	31	13,229	-61.1		31	11.6
150	31	14,172	-67.3		32	12.0
125	31	15,258	-72.8		31	8.2
100	31	16,557	-74.0		32	4.4
80	31	17,866	-71.5		08	2.6
70	31	18,660	-68.7		09	4.3
60	30	19,591	-65.5		10	7.3
50	30	20,710	-62.0		10	10.6
40	29	22,100	-59.9		10	13.0
30	27	23,910	-56.6		11	14.9
25	26	25,075	-53.8		11	14.[illegible]
20	25	26,522	-49.6		11	10.3
15	22	28,427	-44.7		11	8.0
10	19	31,169	-40.2		09	2.6
7	5	33,556	-38.6			

SAULT STE MARIE, MI
990 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	221	4.7	2.9	08	.4
1000	5	239	2.7	.9		
950	31	556	5.2	1.6	26	1.3
900	31	997	3.6	-2.0	28	2.5
850	31	1,4[illegible]	1.6	-6.3	29	3.5
800	31	1,9[illegible]	-.1	-10.7	29	4.6
750	31	2,4[illegible]	-2.0	-13.0	29	5.9
700	31	3,008	-4.2	-16.4	29	7.4
650	31	3,589	-7.1	-19.5	29	8.0
600	31	4,209	-10.7	-23.3	29	8.9
550	31	4,873	-14.7	-26.5	29	10.5
500	31	5,588	-19.5	-31.0	29	11.7
450	31	6,363	-24.7	-36.0	29	12.4
400	31	7,210	-3[illegible].4	-40.9	29	13.3
350	31	8,148	-37.4	-45.9	29	15.0
300	31	9,193	-44.8	-48.7	29	16.4
250	31	10,395	-51.1		28	19.8
200	31	11,835	-54.[illegible]		29	19.4
175	31	12,[illegible]	-54.9		28	17.7
150	31	13,673	-56.1		28	16.9
125	31	14,9[illegible]	-57.6		28	14.4
100	30	16,236	-58.1		28	[illegible]
80	30	17,644	-57.7		27	9.1
70	30	18,488	-5[illegible]		28	7.7
60	29	19,460	-56.6		27	6.5
50	29	20,618	-56.0		26	6.6
40	29	22,038	-55.6		26	6.1
30	29	23,877	-54.2		26	6.6
25	29	25,047	-53.8		27	7.0
20	28	26,4[illegible]	-53.9		26	6.5
15	27	28,332	-52.5		27	9.5
10	23	30,9[illegible]	-5[illegible].9		27	11.8
7	7	33,221	-49.8			

SPOKANE, WA
934 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	720	4.4	1.6	18	1.6
1000						
950						
900	31	1,024	7.8	.1	21	2.7
850	31	1,494	5.7	-4.1	24	4.4
800	31	1,988	2.8	-7.9	25	5.9
750	31	2,507	-.2	-10.3	25	7.8
700	31	3,057	-2.8	-16.5	25	9.5
650	31	3,641	-5.9	-19.0	25	11.2
600	31	4,263	-9.9	-22.9	26	12.2
550	31	4,929	-13.8	-26.0	26	14.4
500	31	5,647	-18.6	-28.9	26	16.2
450	31	6,425	-23.7	-34.3	26	17.9
400	31	7,275	-29.5	-38.1	26	19.4
350	31	8,218	-36.3	-43.6	26	21.2
300	31	9,267	-44.0	-46.0	26	22.7
250	31	10,470	-51.8		26	24.4
200	31	11,898	-56.6		26	24.5
175	31	12,743	-57.8		26	22.5
150	31	13,715	-58.3		27	20.7
125	31	14,860	-59.6		27	18.3
100	31	16,252	-60.4		27	13.9
80	30	17,645	-59.9		27	11.1
70	29	18,479	-59.1		27	10.0
60	29	19,448	-58.4		27	7.3
50	29	20,595	-58.1		27	6.3
40	29	22,002	-57.9		27	5.3
30	28	23,824	-56.2		27	4.8
25	27	24,987	-55.1		27	4.4
20	27	26,415	-54.0		28	5.3
15	23	28,275	-52.5		28	6.8
10	20	30,923	-50.5		27	10.1
7	5	33,276	-49.7			

TAMPA BAY, FL
1016 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	13	17.2	15.7	05	1.3
1000	31	145	20.0	15.0	05	2.3
950	31	587	18.2	12.3	04	2.1
900	31	1,049	15.7	9.3	31	.3
850	31	1,533	13.7	4.0	26	1.5
800	31	2,043	12.1	-2.4	28	2.5
750	31	2,581	10.1	-6.7	28	3.5
700	31	3,152	7.4	-9.4	28	4.8
650	31	3,759	4.0	-12.6	28	6.5
600	31	4,405	.5	-15.5	28	8.0
550	31	5,098	-3.6	-19.2	28	9.7
500	31	5,845	-8.4	-24.4	28	10.4
450	31	6,654	-13.6	-28.2	28	11.9
400	31	7,539	-20.1	-33.0	28	14.1
350	31	8,518	-27.1	-40.3	28	16.5
300	31	9,608	-35.5	-47.6	28	20.1
250	30	10,852	-45.1		29	22.5
200	30	12,307	-55.2		29	21.6
175	30	13,150	-60.3		29	21.6
150	30	14,098	-65.8		29	20.1
125	30	15,192	-70.9		29	16.7
100	30	16,506	-72.7		28	10.6
80	30	17,824	-68.9		27	5.1
70	30	18,630	-65.2		27	2.5
60	30	19,574	-63.5		19	.3
50	30	20,700	-61.4		12	1.6
40	30	22,092	-58.7		08	3.0
30	29	23,912	-55.4		08	4.3
25	27	25,081	-53.7		08	6.5
20	26	26,527	-50.5		09	7.1
15	26	28,415	-48.0		07	2.8
10	23	31,118	-43.8		07	3.0
7	8	33,531	-40.2			

TOPEKA, KS
986 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	268	9.2	7.1	30	.7
1000						
950	31	580	12.4	5.2	30	4.3
900	31	1,034	11.7	2.3	29	5.8
850	31	1,511	9.8	-1.5	27	6.8
800	31	2,012	7.6	-4.9	28	7.7
750	31	2,542	5.1	-7.1	29	8.6
700	31	3,102	2.3	-11.9	29	9.[illegible]
650	31	3,698	-.[illegible]	-15.7	29	10.2
600	31	4,332	-4.9	-19.6	29	10.7
550	31	5,011	-9.0	-22.8	29	12.3
500	31	5,741	-13.9	-26.5	29	14.1
450	31	6,533	-19.3	-32.1	29	16.5
400	31	7,399	-25.5	-38.4	28	17.5
350	31	8,356	-32.8	-45.2	28	19.[illegible]
300	30	9,418	-41.4	-48.9	28	21.6
250	30	10,633	-49.9		28	23.1
200	28	12,065	-56.8		28	25.3
175	28	12,908	-58.2		28	25.[illegible]
150	28	13,873	-60.7		28	20.[illegible]
125	27	15,000	-63.4		27	16.5
100	27	16,363	-64.9		28	11.3
80	27	17,727	-63.[illegible]		29	6.7
70	27	18,550	-61.3		27	5.[illegible]
60	26	19,509	-60.1		28	4.0
50	24	20,653	-58.1		27	2.7
40	22	22,062	-56.7		26	1.6
30	20	23,898	-55.2		31	1.1
25	20	25,065	-54.0		23	.3
20	19	26,512	-51.9		33	.7
15	18	28,378	-50.4		30	3.1
10	14	31,048	-47.9		28	5.3
7						

TRUK, CAROLINE IS.
1010 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	2	28.7	24.8	24	2.7
1000	31	93	27.8	23.7	24	3.0
950	31	547	24.3	21.5	24	3.8
900	31	1,020	21.4	17.9	25	4.1
850	31	1,515	18.5	14.6	25	3.5
800	31	2,034	16.1	11.3	25	3.0
750	31	2,582	13.5	7.1	24	2.9
700	31	3,161	10.5	3.3	23	2.3
650	31	3,776	7.2	.5	22	2.2
600	31	4,430	3.4	-2.7	21	2.3
550	31	5,132	-.3	-7.1	22	1.9
500	31	5,890	-4.4	-12.0	21	.8
450	31	6,714	-9.0	-17.1	19	.4
400	30	7,618	-14.3	-23.2	10	1.6
350	30	8,621	-21.0	-32.5	09	2.5
300	30	9,738	-29.4	-40.4	09	4.[illegible]
250	30	11,012	-39.8	-48.9	09	5.3
200	30	12,495	-52.8		09	7.6
175	30	13,343	-60.0		08	9.0
150	30	14,287	-68.1		08	9.5
125	30	15,360	-76.4		08	9.9
100	30	16,626	-79.8		08	9.6
80	30	17,902	-75.7		08	[illegible]
70	30	18,681	-72.2		09	11.6
60	29	19,593	-69.5		09	17.3
50	28	20,692	-64.0		09	22.6
40	28	22,081	-58.2		09	16.9
30	28	23,917	-52.5		09	3.2
25	27	25,099	-50.7		24	2.1
20	27	26,562	-47.7		25	4.3
15	27	28,476	-44.5		24	3.2
10	20	31,231	-38.8		24	2.[illegible]
7						

TUCSON, AZ
925 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	789	18.1	9.1	13	2.9
1000						
950						
900	31	1,024	2[illegible].2	7.3	14	3.4
850	31	1,515	18.1	4.6	15	2.3
800	31	2,032	14.5	2.5	18	2.2
750	31	2,573	1[illegible].6	-1.2	20	2.6
700	31	3,144	6.6	-5.4	22	3.3
650	31	3,749	2.9	-11.1	23	4.1
600	31	4,392	-1.0	-15.7	24	4.8
550	31	5,080	-5.6	-19.2	25	6.0
500	31	5,821	-1[illegible].4	-24.5	25	7.7
450	30	6,627	-16.0	-30.6	25	9.0
400	30	7,503	-22.2	-36.3	26	9.7
350	30	8,473	-29.6	-43.[illegible]	26	11.9
300	30	9,552	-37.4	-48.3	26	14.3
250	30	10,789	-45.7		26	18.3
200	30	12,246	-54.5		26	21.6
175	30	13,092	-59.2		26	22.5
150	30	14,047	-64.1		26	22.2
125	30	15,151	-68.5		26	17.7
100	29	16,476	-7[illegible].2		27	11.2
80	28	17,801	-69.2		29	6.9
70	27	18,602	-66.6		29	4.6
60	27	19,542	-63.5		29	2.5
50	27	20,671	-6[illegible].5		28	2.3
40	27	22,0[illegible]	-58.3		29	.6
30	25	23,894	-55.9		09	1.9
25	25	25,059	-54.1		07	2.9
20	22	26,505	-51.8		08	4.1
15	22	28,381	-49.4		05	2.4
10	18	31,068	-45.5		36	2.0
7	7	33,542	-42.4			

VANDENBERG AFB, CA
1004 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	30	100	11.3	10.2	01	.8
1000	28	134	11.8	10.2	01	1.3
950	30	565	17.0	3.4	01	3.1
900	30	1,028	18.0	-1.3	03	2.3
850	30	1,514	15.6	-3.6	36	.6
800	30	2,026	12.9	-7.6	23	1.3
750	30	2,564	9.6	-10.6	22	1.9
700	30	3,132	5.7	-13.4	24	2.2
650	30	3,734	1.9	-16.3	26	3.5
600	30	4,375	-2.2	-19.8	26	4.6
550	30	5,061	-6.5	-25.2	26	5.7
500	30	5,798	-11.8	-28.3	26	6.3
450	30	6,596	-17.6	-33.0	26	7.5
400	30	7,466	-24.4	-39.1	26	8.9
350	30	8,428	-31.6	-44.6	27	11.9
300	30	9,497	-39.7	-51.3	27	13.3
250	30	10,721	-48.3		26	16.2
200	30	12,164	-55.8		26	19.7
175	30	13,008	-59.0		26	20.1
150	30	13,967	-62.5		26	19.1
125	30	15,084	-65.8		26	15.8
100	29	16,428	-68.5		27	12.4
80	29	17,769	-67.0		27	7.9
70	29	18,579	-65.4		29	5.5
60	27	19,521	-63.4		29	3.8
50	27	20,648	-60.[illegible]		29	2.8
40	23	22,043	-58.6		30	1.4
30	23	23,863	-56.0		29	1.1
25	21	25,022	-54.8		29	1.0
20	21	26,455	-52.8		31	1.[illegible]
15	19	28,314	-50.5		26	1.7
10	18	30,977	-47.7		28	5.9
7	9	33,339	-44.3			

VICTORIA, TX
1013 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	33	17.5	15.4	06	.4
1000	31	142	20.8	16.0	12	1.2
950	31	586	19.2	12.8	16	3.1
900	31	1,050	16.9	8.4	19	2.2
850	31	1,536	14.9	3.6	25	1.1
800	31	2,047	12.7	-.2	28	1.2
750	31	2,587	10.1	-4.2	29	1.7
700	31	3,157	7.1	-7.6	30	3.4
650	31	3,764	3.8	-9.0	29	4.7
600	31	4,410	.0	-13.7	28	[illegible].1
550	31	5,102	-4.3	-18.6	28	7.9
500	31	5,846	-9.0	-23.9	27	9.2
450	31	6,654	-14.[illegible]	-28.2	27	11.0
400	31	7,538	-20.2	-33.7	27	13.[illegible]
350	31	8,516	-27.4	-39.9	28	16.2
300	31	9,606	-35.2	-46.9	27	19.[illegible]
250	31	10,851	-44.7		27	22.0
200	31	12,312	-54.7		28	25.5
175	31	13,155	-60.2		28	26.8
150	31	14,103	-66.3		28	23.7
125	31	15,194	-71.3		28	18.9
100	30	16,500	-73.7		28	11.6
80	30	17,810	-71.0		29	5.9
70	30	18,608	-67.3		27	3.8
60	29	19,5[illegible]	-63.3		28	2.5
50	29	20,674	-60.9		17	.7
40	28	22,071	-58.6		07	.7
30	27	23,891	-55.7		09	2.5
25	27	25,058	-53.7		07	4.0
20	25	26,505	-51.1		07	4.4
15	25	28,390	-48.1		08	1.8
10	20	31,099	-43.7		03	1.1
7	12	33,[illegible]53	-39.5			

WAKE IS., PACIFIC AREA
1014 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	5	27.6	24.1	08	6.5
1000	31	124	26.4	22.8	09	7.6
950	31	576	22.9	20.6	10	9.4
900	31	1,047	19.8	17.4	10	9.0
850	31	1,538	16.9	13.8	10	8.4
800	31	2,055	14.7	9.1	10	7.4
750	31	2,599	12.2	4.6	10	7.1
700	31	3,175	9.3	-1.0	10	6.2
650	31	3,787	6.2	-6.7	10	5.8
600	31	4,439	2.8	-10.9	09	5.7
550	31	5,138	-1.2	-15.6	09	6.2
500	31	5,892	-6.0	-21.6	09	7.1
450	31	6,709	-10.8	-26.1	09	7.3
400	31	7,605	-16.7	-30.9	09	5.8
350	31	8,598	-23.5	-36.1	07	2.8
300	31	9,702	-32.2	-43.2	36	1.6
250	31	10,962	-42.4		31	4.0
200	31	12,430	-54.4		30	8.0
175	31	13,273	-60.9		31	7.7
150	31	14,216	-67.5		33	5.7
125	31	15,297	-74.0		02	5.0
100	29	16,5[illegible]	-77.8		07	7.5
80	28	17,86[illegible]	-75.6		08	9.3
70	28	18,641	-72.6		09	9.8
60	28	19,556	-68.4		09	10.5
50	28	20,663	-63.5		09	10.7
40	28	22,041	-61.0		09	12.2
30	28	23,843	-57.7		09	13.8
25	28	25,0[illegible]	-54.2		09	13.3
20	27	26,451	-50.3		09	10.9
15	27	28,343	-46.9		09	9.3
10	23	31,080	-39.7		08	6.5
7	8	33,521	-37.4			

WALLOPS ISLAND, VA NASA
1017 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	4	12.0	9.5	36	1.4
1000	31	143	13.8	8.3	35	2.7
950	31	574	11.5	5.7	33	2.0
900	31	1,025	9.2	3.1	28	2.0
850	31	1,497	7.6	-1.6	28	4.4
800	31	1,996	5.7	-4.2	28	6.4
750	31	2,522	3.6	-6.9	27	7.4
700	31	3,080	1.[illegible]	-10.8	26	8.8
650	31	3,674	-1.5	-14.1	25	10.2
600	31	4,307	-5.1	-18.1	25	10.6
550	31	4,986	-9.1	-22.2	25	11.4
500	31	5,717	-13.6	-27.3	25	13.9
450	31	6,511	-18.6	-31.5	25	15.5
400	31	7,378	-24.9	-3[illegible]	25	16.9
350	31	8,338	-32.1	-42.7	25	18.9
300	31	9,406	-39.7	-46.5	25	21.0
250	31	10,631	-47.8		25	23.3
200	31	12,078	-55.2		25	24.5
175	31	12,924	-58.2		26	23.5
150	31	13,891	-60.[illegible]		26	20.2
125	31	15,022	-62.4		26	16.7
100	31	16,396	-63.0		25	12.6
80	31	17,771	-62.1		25	8.9
70	30	18,599	-59.9		26	7.0
60	30	19,565	-58.7		25	4.4
50	29	20,713	-58.1		27	3.3
40	29	22,122	-56.8		31	.5
30	29	23,956	-54.9		09	1.9
25	29	25,128	-53.2		09	2.2
20	26	26,578	-51.5		08	1.2
15	22	28,459	-49.2		26	2.6
10	14	31,172	-46.1		29	2.1
7						

WASHINGTON DULLES INT. AP
1008 MB

Standard pressure surface	No. of observations	Geopotential height	Temperature	Dew Point	Resultant Wind Direction	Resultant Wind Speed
SFC	31	85	7.6	4.7	31	1.2
1000	26	165	1[illegible]	5.[illegible]	34	1.5
950	31	574	1[illegible]	2.6	32	3.6
900	31	1,022	7.5	2.1	31	4.9
850	31	1,492	5.8	-2.1	30	4.7
800	31	1,987	4.3	-5.4	29	5.3
750	31	2,511	2.3	-8.0	28	5.6
700	31	3,066	.0	-13.4	27	6.1
650	31	3,657	-3.0	-16.0	27	7.3
600	31	4,287	-6.2	-19.5	26	9.0
550	31	4,9[illegible]	-1[illegible].2	-22.5	26	10.5
500	31	5,6[illegible]	-14.9	-27.1	26	11.6
450	31	6,480	-2[illegible].0	-32.2	26	12.5
400	31	7,343	-26.0	-37.9	26	13.7
350	31	8,299	-33.4	-43.0	26	15.2
300	31	9,362	-41.2	-47.1	26	17.9
250	31	10,581	-48.7		26	21.4
200	30	12,016	-55.3		26	23.9
175	30	12,864	-57.3		26	21.7
150	30	13,835	-58.9		26	18.3
125	30	14,972	-61.2		26	15.3
100	30	16,353	-62.1		26	12.2
80	30	17,734	-61.0		26	9.7
70	30	18,565	-59.7		26	7.1
60	30	19,533	-58.5		26	5.1
50	30	20,681	-57.9		26	3.5
40	30	22,093	-56.7		25	1.0
30	30	23,924	-54.8		31	.2
25	29	25,[illegible]	-53.4		12	.7
20	27	26,536	-52.0		35	.8
15	23	28,391	-50.6		27	3.1
10	17	31,039	-47.5		28	9.5
7	9	33,371	-45.7			

RAWINSONDE DATA

Average monthly values

	WAYCROSS, GA 1012 MB					
					Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.
SFC	31	44	12.9	11.4	34	.8
1000	31	147	15.6	12.0	01	1.4
950	31	583	15.2	8.8	01	1.7
900	31	1,040	13.0	6.5	29	2.0
850	31	1,520	11.3	-.9	28	4.0
800	31	2,025	9.5	-3.1	28	6.0
750	31	2,559	7.5	-6.8	28	6.9
700	31	3,124	4.7	-10.1	28	7.1
650	31	3,725	1.7	-15.1	28	7.7
600	31	4,365	-2.0	-19.1	28	9.5
550	31	5,052	-6.1	-23.1	28	10.7
500	31	5,791	-10.7	-26.3	28	12.1
450	31	6,593	-16.1	-29.9	28	14.2
400	31	7,470	-22.3	-35.6	28	15.9
350	31	8,440	-29.2	-41.9	28	18.6
300	31	9,521	-37.2	-48.7	28	22.1
250	31	10,757	-46.2		28	25.7
200	31	12,209	-55.5		28	27.1
175	31	13,053	-59.6		29	26.8
150	31	14,007	-64.0		28	24.2
125	31	15,114	-67.[illegible]		28	19.2
100	31	16,449	-69.7		27	12.3
80	31	17,787	-66.[illegible]		26	6.5
70	31	18,600	-63.9		26	4.8
60	31	19,549	-61.[illegible]		25	2.0
50	31	20,683	-60.3		18	.5
40	31	22,080	-58.3		07	1.6
30	30	23,905	-55.1		08	1.7
25	29	25,071	-53.4		08	2.7
20	27	26,520	-50.8		08	4.2
15	25	28,400	-48.9		06	1.4
10	20	31,099	-44.7		01	2.7
7	6	33,600	-38.8			

	WEST PALM BEACH, FL 1015 MB					
					Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.
SFC	31	7	20.5	17.2	02	2.0
1000	31	137	22.2	17.0	02	2.3
950	31	582	19.3	14.7	04	2.7
900	31	1,046	16.6	10.4	04	1.2
850	31	1,532	14.5	5.4	24	1.1
800	31	2,043	12.6	.0	25	2.6
750	31	2,583	10.6	-4.8	27	3.4
700	31	3,155	7.9	-8.1	27	4.5
650	31	3,762	4.6	-11.9	27	4.9
600	31	4,410	1.[illegible]	-16.1	27	5.8
550	31	5,105	-3.1	-19.8	27	7.7
500	31	5,852	-8.1	-22.4	27	[illegible].5
450	31	6,662	-13.5	-27.2	27	10.3
400	31	7,547	-19.6	-32.8	28	11.8
350	31	8,528	-26.8	-40.3	28	14.7
300	31	9,619	-35.2	-47.2	28	17.1
250	31	10,864	-44.8		29	19.[illegible]
200	31	12,321	-55.3		29	19.7
175	31	13,163	-60.5		29	19.[illegible]
150	31	14,110	-66.3		28	17.7
125	31	15,201	-71.0		28	16.4
100	31	16,513	-72.5		28	9.6
80	31	17,836	-68.4		27	4.5
70	31	18,643	-65.5		26	2.3
60	31	19,587	-62.9		16	.8
50	31	20,714	-61.1		11	2.0
40	31	22,112	-58.[illegible]		08	3.4
30	30	23,938	-54.7		08	5.0
25	30	25,109	-52.9		08	[illegible].2
20	29	26,560	-50.2		10	6.8
15	29	28,457	-46.3		08	3.6
10	24	31,190	-42.2		07	3.4
7	10	33,618	-36.9			

	WINNEMUCCA, NV 871 MB					
					Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.
SFC	31	1,312	2.4	-8.9	15	1.3
1000						
950						
900						
850	31	1,511	11.5	-2.8	05	.3
800	31	2,017	10.5	-4.5	26	1.3
750	31	2,551	6.9	-7.0	24	3.6
700	31	3,114	2.7	-10.0	24	5.6
650	31	3,709	-1.1	-13.2	25	6.9
600	31	4,343	-5.1	-17.3	25	[illegible].1
550	31	5,021	-9.6	-21.7	25	[illegible].6
500	31	5,751	-14.3	-26.8	26	[illegible].6
450	31	6,542	-19.6	-30.6	26	11.0
400	31	7,405	-26.1	-35.7	26	12.7
350	30	8,361	-33.4	-43.3	26	13.1
300	30	9,421	-42.0	-47.2	26	12.8
250	30	10,632	-50.5		26	13.9
200	30	12,064	-56.9		26	16.4
175	30	12,906	-58.8		26	17.[illegible]
150	30	13,869	-60.8		27	17.8
125	30	14,998	-63.4		26	15.2
100	30	16,364	-64.0		27	13.4
80	30	17,732	-63.4		27	9.5
70	30	18,555	-61.9		27	6.7
60	29	19,510	-61.2		28	5.3
50	27	20,645	-59.7		28	4.4
40	25	22,044	-58.2		29	4.2
30	25	23,865	-55.8		27	4.8
25	24	25,025	-54.9		27	[illegible].6
20	23	26,462	-52.5		27	6.1
15	19	28,320	-51.6		27	9.6
10	15	31,001	-48.9			

	WINSLOW, AZ 854 MB					
					Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.
SFC	31	1,487	8.0	4.2	20	1.0
1000						
950						
900						
850	30	1,528	10.5	2.0	20	.9
800	31	2,036	13.2	-1.6	24	1.3
750	31	2,575	9.8	-4.1	24	2.0
700	31	3,144	5.6	-6.8	25	3.3
650	31	3,746	1.[illegible]	-11.9	24	4.2
600	31	4,387	-2.2	-16.7	25	4.8
550	31	5,073	-6.6	-22.1	25	4.9
500	31	5,810	-11.4	-26.6	26	6.6
450	31	6,609	-17.2	-31.4	26	7.9
400	30	7,478	-24.2	-37.6	26	9.2
350	29	8,443	-31.5	-43.2	26	10.4
300	29	9,512	-39.7	-46.1	26	13.4
250	29	10,737	-48.1		26	17.8
200	29	12,182	-55.8		27	23.3
175	29	13,025	-59.2		27	22.1
150	29	13,982	-63.4		27	21.0
125	29	15,093	-66.6		27	17.0
100	29	16,434	-68.[illegible]		28	11.9
80	28	17,770	-67.4		29	7.2
70	28	18,580	-65.3		29	4.8
60	28	19,525	-62.6		29	3.6
50	28	20,658	-59.5		29	2.4
40	28	22,063	-57.0		28	2.2
30	28	23,892	-54.[illegible]		32	.9
25	27	25,064	-53.7		01	.6
20	25	26,504	-51.7		34	.5
15	19	28,393	-49.5		16	.7
10	10	31,112	-46.4			

	YAKUTAT, AK 1L00 MB					
					Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg.	Speed m.p.s.
SFC	31	12	4.9	3.6	10	3.0
1000	15	112	7.0	1.4	10	3.1
950	31	428	4.8	1.[illegible]	13	6.1
900	31	867	1.7	-.2	15	7.2
850	31	1,325	-1.4	-3.4	15	8.1
800	31	1,806	-4.1	-5.9	16	8.0
750	31	2,313	-7.0	-11.2	16	7.4
700	30	2,852	-10.4	-15.[illegible]	17	7.5
650	30	3,419	-14.2	-20.[illegible]	17	7.7
600	30	4,022	-18.0	-26.[illegible]	18	8.4
550	30	4,667	-22.2	-30.5	19	8.5
500	30	5,360	-27.1	-35.1	19	9.0
450	30	6,111	-32.5	-40.4	20	9.0
400	30	6,931	-38.8	-44.9	21	9.8
350	29	7,838	-45.0		21	9.5
300	29	8,853	-50.5		23	10.4
250	29	10,031	-53.9		24	9.1
200	29	11,469	-52.6		24	8.5
175	29	12,333	-51.8		25	10.1
150	29	13,333	-51.5		25	9.9
125	29	14,518	-51.2		25	9.9
100	28	15,964	-51.1		25	9.3
80	28	17,412	-52.1		25	8.0
70	28	18,276	-52.3		25	7.3
60	27	19,271	-53.1		25	7.5
50	27	20,444	-53.9		25	6.2
40	26	21,881	-53.9		26	6.1
30	24	23,730	-54.0		27	4.9
25	23	24,904	-53.5		27	4.9
20	21	26,346	-52.9		28	4.6
15	16	28,206	-52.3		29	5.9
10	12	30,860	-50.2		28	7.5

	◆ YAP, CAROLINE IS. 1008 MB						YUCCA FLAT, NV 882 MB					
					Resultant Wind						Resultant Wind	
Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Direction tens of deg	Speed m.p.s.
SFC	31	14	26.6	22.9	27	1.7	31	1,198	6.1	-5.0	30	.7
1000	31	42	27.5	24.3	27	2.1						
950	31	536	24.0	22.0	27	3.[illegible]						
900	31	1,009	21.1	18.0	28	3.0						
850	31	1,503	18.2	14.4	27	2.6	31	1,512	15.7	-3.4	34	1.[illegible]
800	31	2,022	15.9	11.5	27	2.2	31	2,024	13.3	-5.1	19	1.9
750	31	2,569	13.3	7.8	27	1.4	31	2,563	9.4	-7.4	20	3.3
700	31	3,148	10.7	.2	30	.6	31	3,130	5.0	-9.7	22	3.6
650	31	3,763	7.6	-3.0	04	.7	31	3,731	1.2	-13.3	23	4.3
600	31	4,418	3.7	-6.7	07	1.3	31	4,370	-3.2	-16.5	24	4.8
550	31	5,120	-.4	-9.6	10	2.0	31	5,052	-7.6	-20.9	25	5.5
500	31	5,877	-4.4	-16.0	08	3.2	31	5,787	-12.3	-27.6	26	7.2
450	31	6,700	-9.2	-21.3	08	4.4	31	6,584	-18.0	-32.2	26	8.2
400	31	7,602	-14.9	-27.7	08	4.3	31	7,453	-24.8	-38.4	26	[illegible].1
350	31	8,602	-21.[illegible]	-34.8	09	3.6	31	8,412	-32.3	-44.0	26	9.8
300	31	9,715	-30.0	-42.3	09	3.6	31	9,478	-40.6	-49.3	26	12.0
250	31	10,986	-40.5	-49.8	10	4.7	31	10,698	-48.6		26	13.4
200	31	12,465	-53.3		09	7.9	31	12,141	-55.5		26	15.8
175	31	13,311	-60.5		09	9.5	31	12,986	-58.5		26	16.5
150	31	14,253	-68.5		08	10.5	31	13,949	-61.6		27	14.9
125	30	15,325	-76.2		08	11.8	31	15,070	-64.6		27	13.2
100	30	16,595	-80.1		09	[illegible].8	31	16,423	-67.2		27	10.9
80	30	17,862	-77.3		08	9.4	31	17,772	-65.8		28	6.4
70	30	18,639	-72.4		09	11.6	28	18,586	-64.5		29	4.9
60	29	19,553	-69.4		09	16.1	28	19,533	-62.6		29	4.0
50	29	20,656	-63.[illegible]		09	20.[illegible]	27	20,665	-60.2		29	2.9
40	29	22,041	-59.6		09	17.4	25	22,066	-57.9		29	3.1
30	28	23,867	-53.6		09	7.2	24	23,900	-54.7		28	2.[illegible]
25	28	25,046	-51.0		11	3.1	24	25,070	-53.6		29	2.4
20	26	26,509	-47.6		19	1.9	24	26,509	-52.5		28	2.3
15	25	28,429	-44.4		22	2.7	17	28,355	-50.5		27	3.6
10	20	31,193	-38.1		06	.8	[illegible]	30,998	-48.4			
7	17	33,678	-34.9									
5	5	35,989	-32.0									

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

OCTOBER 1977

ALBUQUERQUE, NM

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	.96	1.05	1.18	1.32	1.45	1.33	1.19	1.04	.96
2-----	.89	.99	1.12	1.27	1.40	1.23	1.04	.87	.78
3-----	----	----	----	----	----	1.22	1.06	.92	.83
4-----	----	----	----	----	1.32	1.21	1.02	----	.78
9-----	----	----	----	----	1.44	1.29	1.12	1.00	.89
10----	.91	1.03	1.15	1.30	1.46	----	1.12	.98	----
11----	.92	1.04	1.15	1.31	1.43	1.28	1.17	1.06	.94
12----	.98	1.09	1.18	1.34	1.44	1.34	1.21	1.10	1.02
13----	1.00	1.13	1.21	1.32	1.46	1.32	1.16	----	.91
14----	.97	1.11	1.20	1.35	1.45	1.31	1.19	----	.95
15----	.89	1.02	1.12	1.30	1.40	1.30	1.14	1.03	.90
16----	.92	1.06	1.17	1.32	(1.43)	----	----	----	----
17----	.97	1.09	1.19	1.35	1.45	1.35	1.19	1.08	.95
18----	.96	1.09	1.19	1.35	1.44	1.33	1.16	1.05	.93
19----	----	----	1.16	1.30	1.39	1.31	1.16	1.05	.92
20----	.85	.95	1.09	1.20	1.41	1.28	1.12	1.00	.88
21----	.93	----	----	1.26	1.43	1.30	----	----	----
22----	.86	----	1.07	1.21	----	----	----	----	----
23----	.77	.89	1.00	1.17	1.29	1.22	1.05	----	.79
24----	.95	1.07	1.18	1.33	1.42	1.31	1.20	----	.96
25----	.96	1.10	1.21	1.36	1.46	1.34	1.23	1.10	.99
26----	1.01	1.11	1.21	1.35	1.44	1.35	1.21	1.10	.96
27----	.94	1.05	1.20	(1.31)	1.39	1.28	1.10	.95	.81
28----	.79	.92	1.07	1.22	1.36	1.26	1.11	.97	.84
30----	.93	1.02	1.14	1.28	----	----	----	----	----
31----	----	----	----	----	----	1.32	1.19	1.04	.97
Averages	.92	1.04	1.15	1.30	1.42	1.36	1.20	1.08	.90

BLUE HILL OBSERVATORY, MA

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MADISON, WI

Date	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
2-----	S .96	S .99	S1.11	S1.22	S1.32	----	----	----	----
3-----	S .73	S .99	S1.09	S1.22	S1.30	S1.18	S1.06	S .95	S .86
4-----	S .82	S .94	S1.04	S1.17	S1.25	----	----	----	----
5-----	----	----	----	----	----	----	S .99	S .92	S .81
6-----	S .96	S .99	S1.11	S1.24	S 1.29	----	----	----	----
12----	S .80	S .90	S1.04	----	----	S1.08	S .97	S .86	S .76
13----	S .75	S .83	S .95	S1.11	S1.22	S1.11	S .91	S .81	S .70
14----	S .76	S .86	S .98	S1.09	----	----	----	----	----
20----	S .78	S .88	----	----	----	----	----	----	----
21----	----	M .51	M .63	M .86	----	----	----	----	----
29----	----	----	----	S1.18	S1.20	S1.17	S .92	S .76	M .66
Averages	.80	.91	.99	1.13	1.26	1.13	.97	.86	.75

MAUNA LOA OBSERVATORY, HI

Date	Air mass								
	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
3-----	1.18	1.25	1.32	1.45	1.58	1.48	----	----	----
4-----	1.17	1.25	1.34	1.45	1.58	1.45	1.34	1.24	1.16
5-----	1.13	1.22	1.30	1.42	1.55	1.44	1.32	1.25	1.16
6-----	1.21	1.29	1.37	1.45	1.59	----	----	----	----
7-----	1.20	1.26	1.37	1.48	1.57	----	----	1.30	1.23
8-----	1.23	1.30	1.39	1.40	----	----	----	----	----
13----	1.13	1.22	1.32	1.43	----	----	----	----	----
15----	1.19	1.26	1.35	1.47	1.57	----	----	----	----
16----	1.16	1.24	1.34	1.44	----	----	----	----	----
20----	----	----	----	----	1.59	1.47	1.33	1.30	1.18
21----	1.29	1.35	1.45	1.53	----	----	----	----	----
22----	1.29	1.36	1.44	1.54	----	----	----	----	----
23----	1.25	1.33	1.41	1.51	1.59	----	----	----	----
25----	1.22	1.30	1.38	1.49	1.60	1.50	1.39	1.31	1.21
30----	1.24	1.31	1.40	1.50	1.58	1.49	1.38	1.30	1.21
31----	1.20	1.30	1.39	1.50	1.59	----	----	----	----
Averages	1.21	1.28	1.37	1.47	1.58	1.47	1.35	1.53	1.19

TUCSON, AZ

Date	Air mass								
	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	.91	.99	1.11	1.26	1.42	1.24	1.11	1.01	.90
2-----	.92	1.03	1.16	1.29	1.42	1.23	1.03	.90	.79
3-----	----	----	----	----	1.23	----	----	----	----
4-----	.69	.80	.91	1.09	1.27	----	----	----	----
5-----	----	----	.80	1.04	1.28	1.09	----	----	----
8-----	----	----	----	----	1.38	----	----	----	----
9-----	----	----	----	----	----	1.14	.99	.82	.70
10----	----	----	----	----	----	1.23	1.04	.93	.81
11----	.66	.74	.89	1.18	1.30	1.04	.90	.77	.68
12----	.85	.96	1.08	1.25	1.39	1.24	1.06	----	----
13----	.84	.92	1.06	1.23	1.34	----	.90	----	.68
14----	.81	.92	1.06	1.25	1.40	1.23	1.04	.88	.79
15----	.85	.96	1.07	1.23	1.41	1.27	1.08	.94	.83
16----	.78	.88	1.01	1.18	1.33	1.19	1.02	.89	----
17----	.86	.98	1.09	1.26	1.39	1.21	----	----	----
18----	.84	.94	1.07	1.24	1.35	1.22	1.04	.88	.79
19----	.77	.87	1.00	1.20	1.35	1.33	1.21	1.08	.99
20----	.94	1.06	1.18	1.34	1.42	1.26	1.13	1.02	.90
21----	.88	1.00	1.13	1.28	1.41	1.30	1.12	.99	.87
22----	.84	.98	1.10	1.27	1.41	1.25	1.08	.93	.82
23----	.85	.96	1.09	1.26	1.39	1.23	1.05	.90	.75
24----	.81	.91	1.03	1.24	1.39	1.25	1.07	.94	.85
25----	.88	.99	1.11	1.30	1.41	1.25	1.05	.89	.81
26----	.94	1.05	1.18	1.32	1.40	1.25	1.06	.91	.82
27----	.88	.97	1.09	1.27	1.38	1.24	1.08	.97	.84
28----	.89	1.00	1.16	1.32	1.41	----	----	----	----
30----	----	.91	1.07	1.26	1.42	1.31	1.14	1.01	.87
31----	.91	1.01	1.17	1.32	1.43	1.32	----	----	----
Averages	.85	.95	1.07	1.24	1.37	1.23	1.06	.93	.82

Air mass

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska [illegible]

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	11	[illegible]	7	24	- 1	21	9	8	11	- 37	29	- 1	11	- 25	2	- 21	- 5	26	- 76	[illegible]	- 20	- 34	- [illegible]	15	- [illegible]	- 16	- 21	- 6	- [illegible]	22	- 8	1

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (3900 A) at Ames, Iowa

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. .														NO DATA RECEIVED																		

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters

$°F. = \frac{9}{5} \times °C + 32$

1 inch = 25.4 millimeters

1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
•	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
___	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

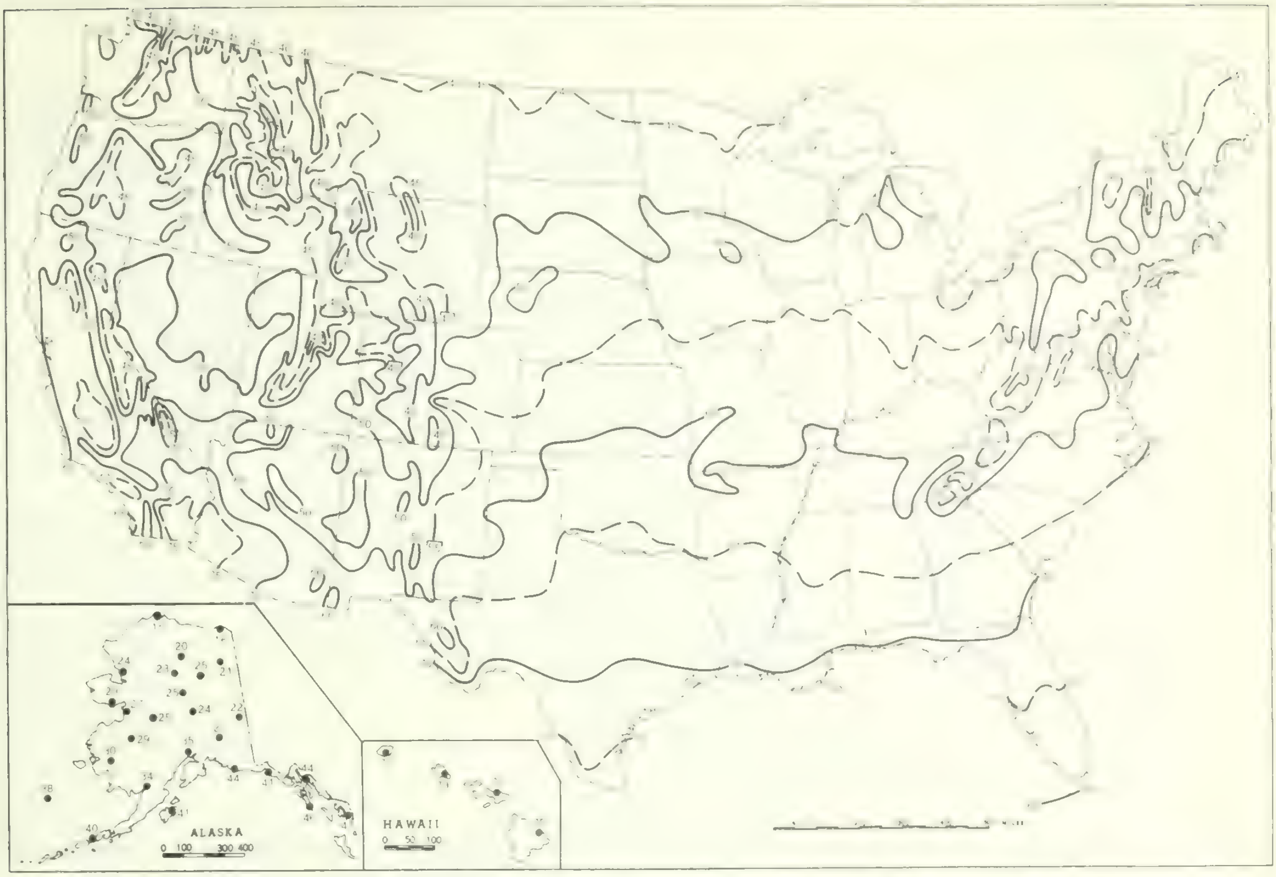
()	Clouds Present
*	Values corresponding to true solar noon
BD	Blowing Dust
BN	Blowing Sand
D	Dust
DI	Intense Dust
DM	Moderate Dust
DS	Slight Dust
F	Fog
GF	Ground Fog
H	Haze
HI	Intense Haze
HM	Moderate Haze
HS	Slight Haze
I	Intense Haze-indeterminable
K	Smoke
KI	Intense Smoke
KM	Moderate Smoke
KS	Slight Smoke
M	Moderate Haze-indeterminable
N	Sand
S	Slight Haze-indeterminable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), October.



B. Temperature Departure from 30 - Year Mean (F 1941-70), October 1977

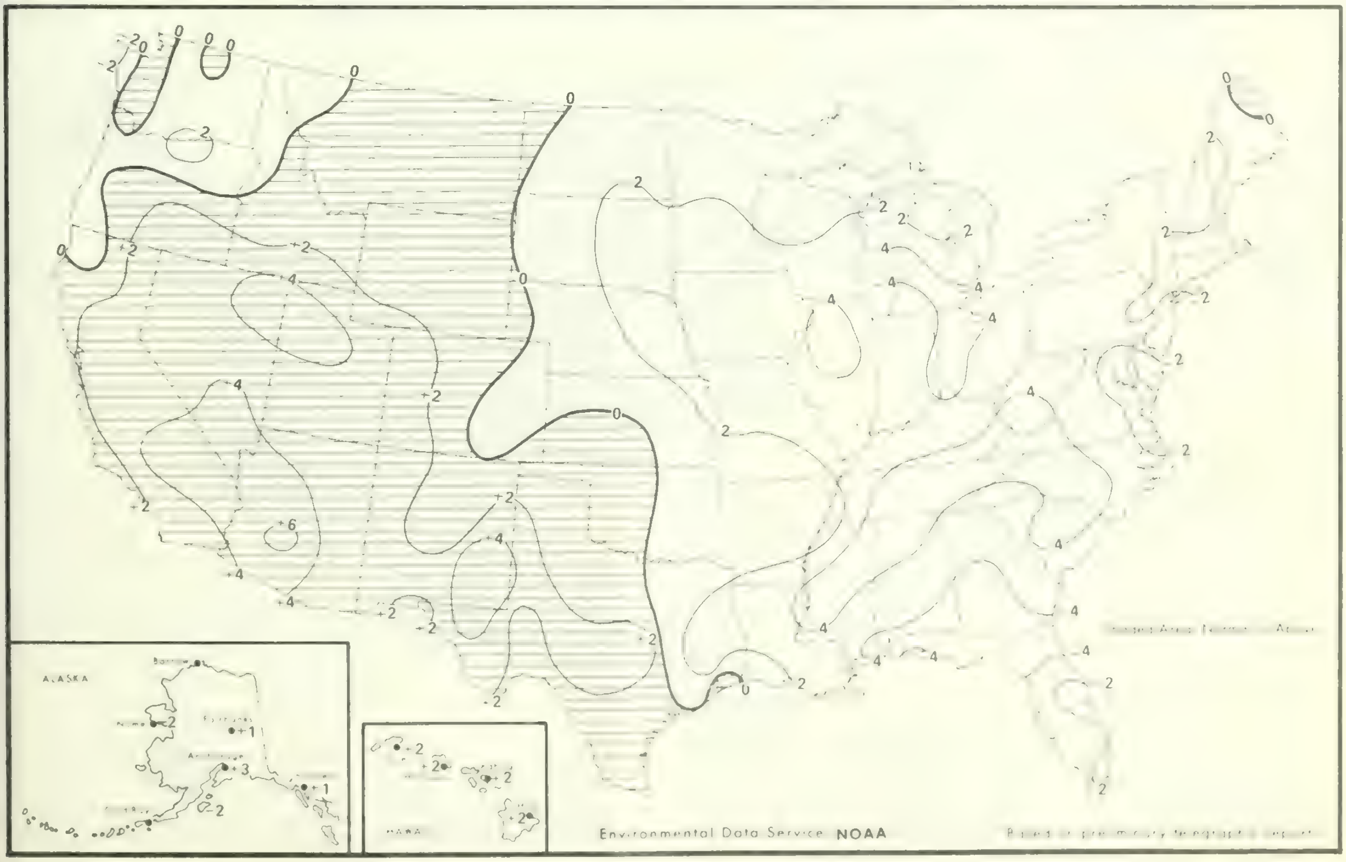
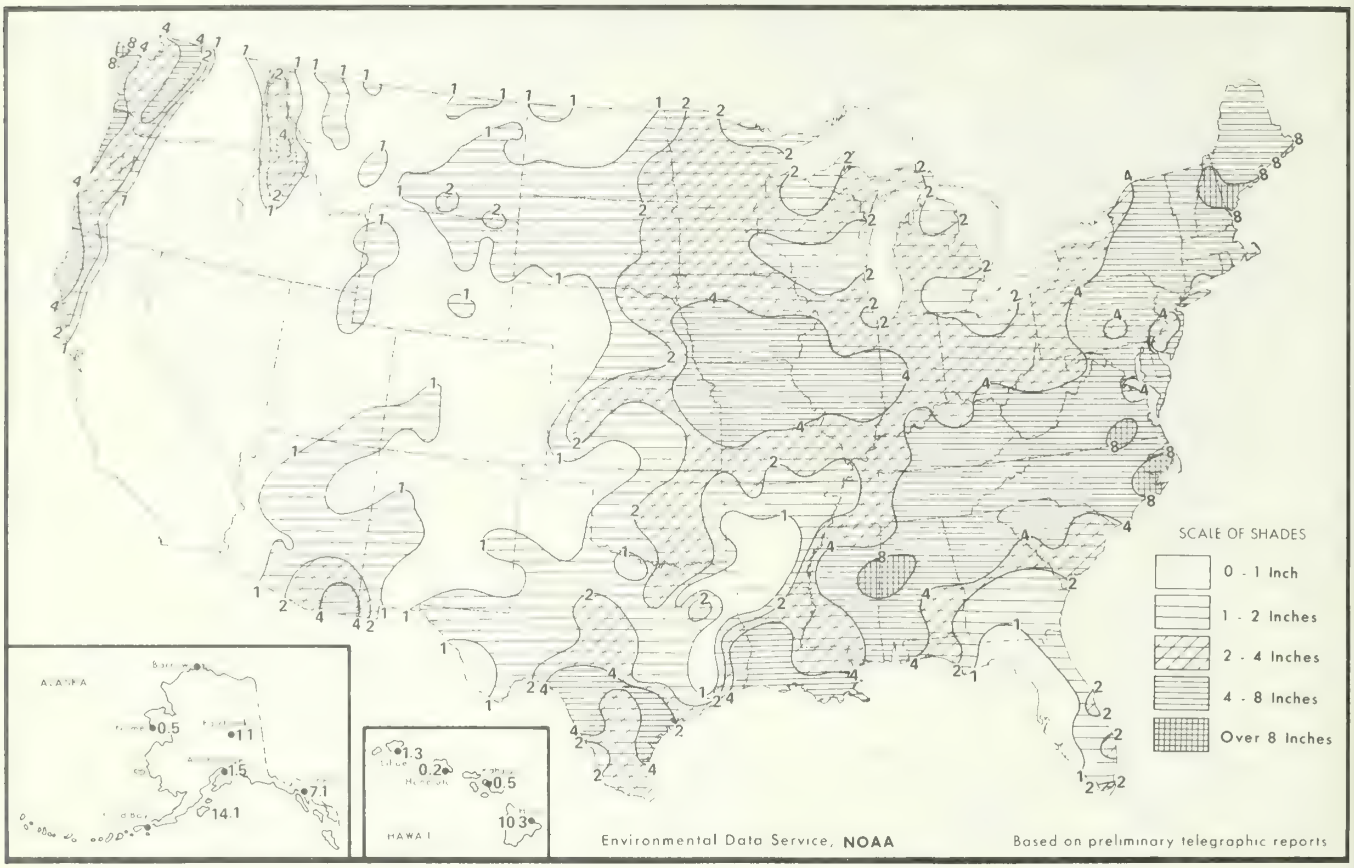
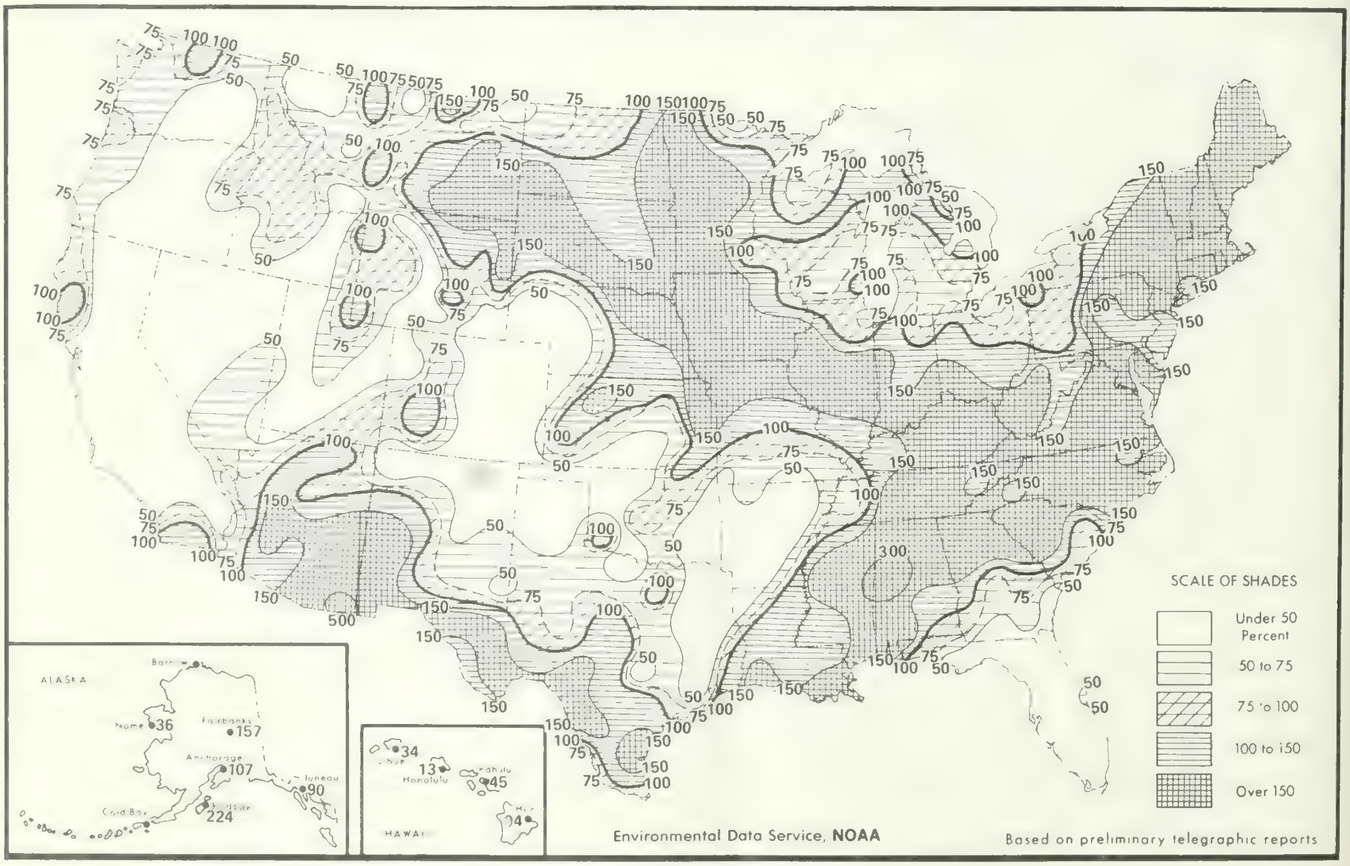
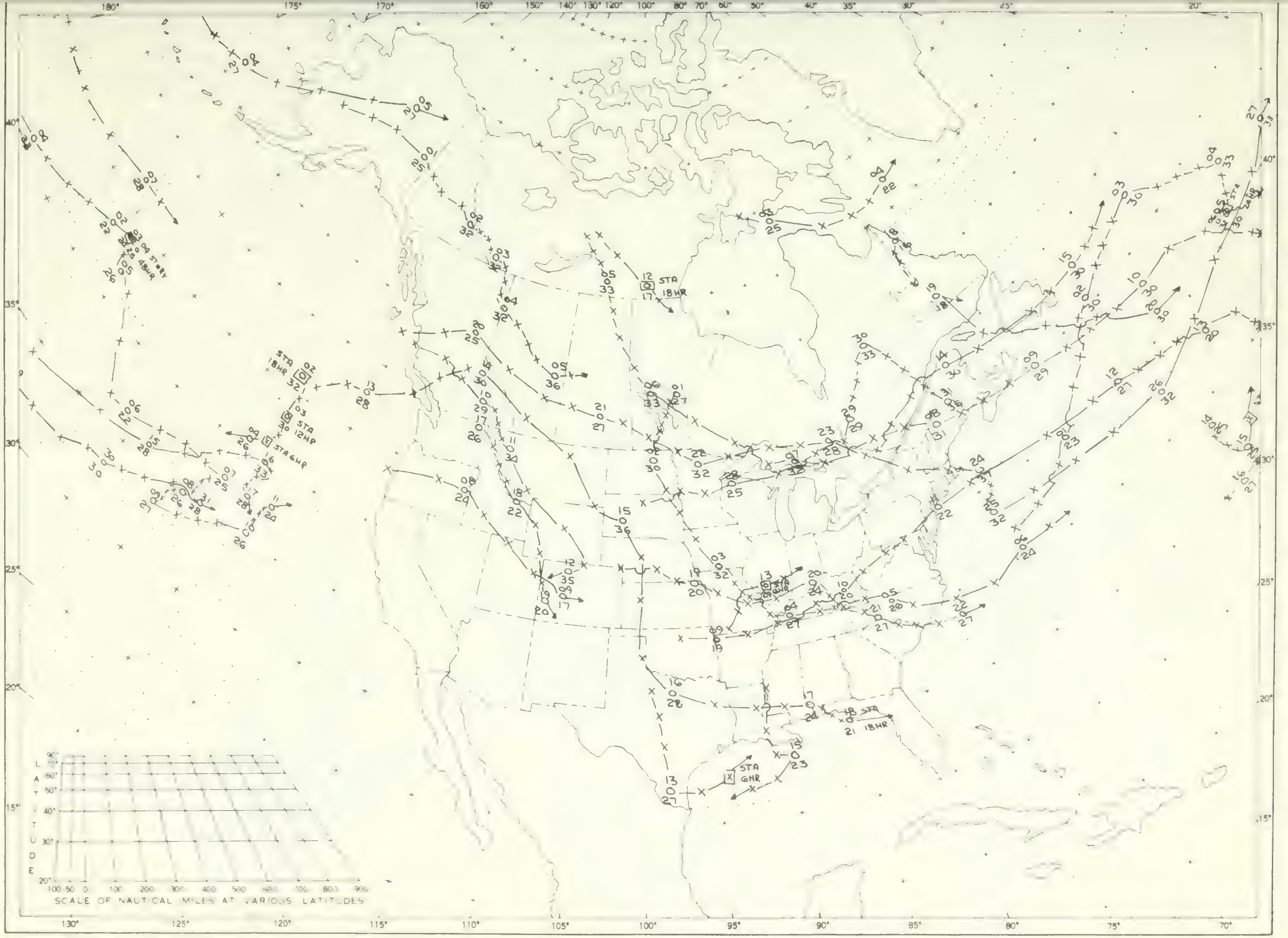

0
+2
+4
+6
-2
2
4
ALASKA
Barrow
Nome
-2
Fairbanks
+1
Anchorage
+3
+1
Cold Bay
-2
HAWAII
+2
Shaded Areas Above Normal
Environmental Data Service NOAA
Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), October 1977



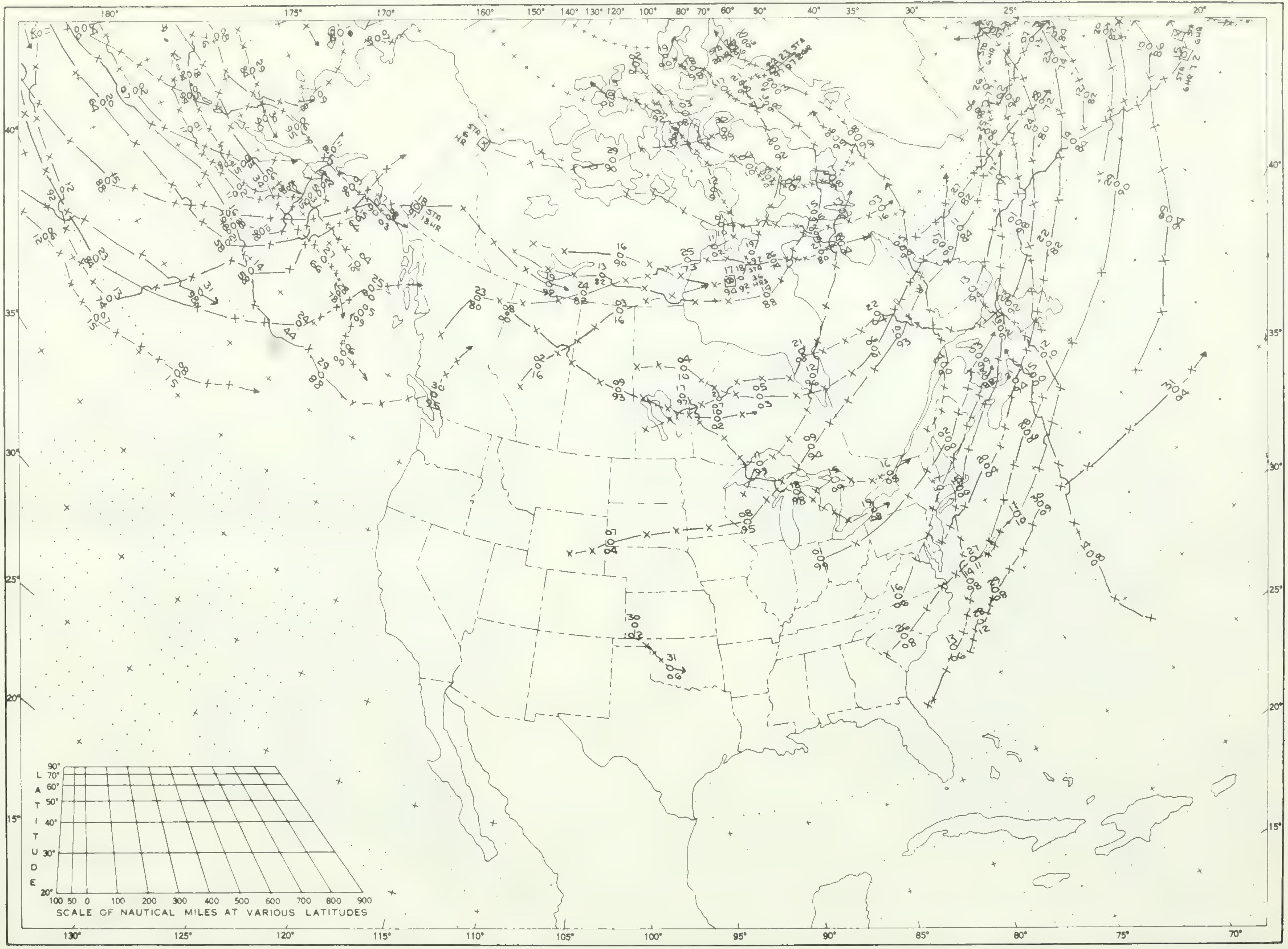
B. Percentage of Normal Precipitation, October 1977





Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, October 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

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NOVEMBER 1977 VOLUME 28 NUMBER 11

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

MAY 10 [illegible]
SCI. TECH. & AGR. DIV.

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

oaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

NOVEMBER 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: Temperatures averaged above normal over most of the Nation. Exceptions were the northern States from the Great Lakes westward where the averages were 2 to 4° colder than normal and near normal averages in the Plains. Much-needed rain fell in the Pacific Northwest and as far south as San Francisco. Snow accumulated in the Mountains eastward and from the northern Plains to western New England. Several storms moved from the Gulf of Mexico northeastward spreading moderate to heavy rain in their wake.

A complex low pressure system formed over the western portion of the Gulf States in the early days of November. Warm moist air from the Gulf of Mexico moved northward ahead of the system. Rain, heavy at times with some thunderstorms, was carried northward to the Great Lakes area. As the storm moved eastward heavy rain fell in the South and then through and east of the Appalachians, At the end of the first week another strong weather system moved onto the West Coast and spread light rain through California to the northern Rockies. Average temperatures for the week were quite warm, 15° above normal in the Ohio Valley, and averaged near normal behind the system to slightly cooler on the West Coast.

Early in the second week the weakening storm caused moderate to heavy rain from the mid-Atlantic States through New England and by midweek a second storm system gathered strength in the central United States. Snow fell in the Rockies and then moved into the northern Plains and upper Mississippi Valley. A cold front associated with the storm moved eastward and marked a line of thunderstorms and severe weather. Snow fell in Ohio, Pennsylvania, and parts of New England. Although the storm was of Pacific origin, it pulled cold Canadian air southward into the Rockies and eastward.

From the 14th to the 20th a succession of weather systems ushered in a cold air mass to the northwestern United States that set the scene for an intense winter storm. Snow fell in the Northwest at the beginning and end of the week. At midweek a cold front extended from the Lakes area to East Texas. Rain and showers accompanied the front eastward with snow falling in the northern States. Flooding from heavy rain occurred from central Arkansas to southern Illinois. Freezing temperatures in the East gave way to warm air and then cold again by week's end. The Northwest was cold all week, averaging 5 to 12° colder than normal.

The last ten days of November produced at least two typically winter weather situations. Early in the period the ridge of high pressure normally off the West Coast broke down and allowed Pacific storms to move further south bringing much-needed rain to northern California. Snow fell in the mountains of the Northwest and moved to the northern Plains. Then a trough of low pressure deepened in the central United States bringing sub-zero temperatures to the upper Mississippi Valley. Moist, warm flow ahead of the cold air caused moderate to heavy rain from the mid-South northeastward. Snow fell in much of western New England.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

NOVEMBER 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Brantley	81	9	5 Stations	19	27+	Huntsville WSO AP	11.53	Wadley	2.63
Alaska	4 Stations	50	21	Galbraith	-57	11	Little Port Walter	19.34	Kobuk	.02
Arizona	7 Stations	90	26	Sunrise Mountain	3	9	Oracle 2 SE	1.83	16 Stations	.00
Arkansas	Warren 2 WSW	86	1+	3 Stations	12	26	Cabot 4 SW	11.82	Ratcliff	1.94
California	Yorba Linda	98	25	Bodie	-12	20	Gasquet Ranger Station	22.54	47 Stations	.00
Colorado	4 Stations	80	6+	Maybell	-24	21	Berthoud Pass	4.81	John Martin Dam	.00
Connecticut	3 Stations	75	[illegible]	Norfolk 2 SW	15	28	Putnam Lake	8.39	Hartford-Brainard Field	2.13
Delaware	2 Stations	78	4	Georgetown 5 SW	21	27	Wilmgton Porter Reservoir	9.29	Georgetown 5 SW	4.46
Florida	3 Stations	90	23+	Fountain 3 SSE	23	11	Clewiston U S Engineers	11.14	Everglades	1.26
Georgia	2 Stations	84	21	Clayton 1 SSW	15	14+	Clayton 1 SSW	12.71	Millhaven-Wade 2 SE	1.86
Hawaii	Puukohola Heiau 98.1, HI	92	3	Mauna Loa Slope Obs, HI	32	16	Mount Waialeale 1047, Kauai	23.78	7 Stations	.00
Idaho	2 Stations	69	15+	2 Stations	-21	21	Pierce	8.58	Leadore 2	.11
Illinois	Palestine	76	3	2 Stations	-10	26	Chester	5.47	Clinton 1 SSW	1.17
Indiana	Scottsburg	80	6	Plymouth Power Substation	- 1	27	Charlestown Ord Plant	6.13	Lafayette 5 S	1.09
Iowa	3 Stations	70	3	Elkader 5 SSW	-22	26	Keokuk Lock and Dam 19	4.19	Ankeny	.18
Kansas	Johnson 11 ESE	82	6	2 Stations	- 2	26	Fredonia 1 E	4.99	Saint Francis	.03
Kentucky	Jackson	86	5	7 Stations	11	27+	Pineville 4 NW	8.89	Lloyd Greenup Dam	2.29
Louisiana	2 Stations	85	28	Plain Dealing	24	10	Vinton	17.29	Cotton Valley	1.93
Maine	2 Stations	71	5+	Clayton Lake 2	- 4	29	Portland WSO AP	6.46	Caribou WSO AP	1.63
Maryland	3 Stations	80	4	Oakland 1 SE	8	27	Cambridge Water Trtmt Plt	8.56	Assateague State Park	2.58
Massachusetts	5 Stations	75	5+	2 Stations	12	27	Newburyport	5.41	Provincetown 1 N	1.86
Michigan	Port Huron	75	3	2 Stations	- 8	27+	Steuben 2 WNW	6.72	Newaygo 2	1.09
Minnesota	2 Stations	65	7+	Thorhult 1 S	-30	25	[illegible]	5.80	Winona Dam 5	.88
Mississippi	Calhoun City 3 NW	84	1	Iuka	19	26	Grenada	12.78	Enterprise	4.64
Missouri	2 Stations	79	1	Shelbina	- 5	28	Marshall	6.35	Grant City	.51
Montana	3 Stations	72	12	Busby	-33	21	Troy 18 N	6.40	Apex 2 NW	.03
Nebraska	Fort Robinson	81	1	2 Stations	-15	21	Fremont	3.27	Lamar	T
Nevada	Sunrise Manr Las Vegas	85	4	Rand Ranch Palisade	-19	20	McDermitt	2.51	8 Stations	.00
New Hampshire	3 Stations	70	4	Mount Washington	-12	27	Mount Washington	11.37	Otter Brook Lake	2.14
New Jersey	2 Stations	78	4	Newton St Pauls Abbey	20	29	Newark WSO AP	11.53	Newton St Pauls Abbey	4.63
New Mexico	Farnsworth Ranch	86	15	Red River	- 3	9	Pecos Ranger Station	2.82	10 Stations	.00
New York	Lockport 2 NE	76	3	Massena FAA AP	- 5	27	NY Westerleigh Staten Is	12.36	Wellsville 4 NNW	2.52
North Carolina	Bayboro 3 E	86	4	Grandfather Mountain	4	27	Idlewild	16.26	Norwood 1 ENE	1.33
North Dakota	3 Stations	69	2	Moffit 3 SE	-28	25	Fullerton 1 ESE	5.47	Sherwood 3 N	.10
Ohio	Ironton	82	6	2 Stations	5	29	Dorset	6.60	Findlay Sewage Plant	1.50
Oklahoma	Ardmore	88	1	Boise City 2 E	8	21	Carter Tower	5.77	Eva 4 ESE	.14
Oregon	Hermiston 2 S	72	2	Austin 3 S	-17	20	Nehalem 9 NE	29.14	Rome 2 NW	.83
Pennsylvania	Donora 1 SW	79	4	Laurel Mtn State Park	7	27	Marcus Hook	9.21	Donora 1 SW	1.62
Puerto Rico	Magueyes Island	94	16+	3 Stations	56	28	Pico Del Este	35.75	Rincon Power Plant	2.26
Rhode Island	2 Stations	73	4	Kingston	21	15	Woonsocket	4.58	Block Island WSO AP	2.22
South Carolina	2 Stations	86	23+	Caesars Head	13	27	Hogback Mountain	14.42	Manning 1 S	.76
South Dakota	2 Stations	75	5+	Deerfield 4 NW	-27	21	Sisseton 2 E	4.77	Mission 14 SSE	.23
Tennessee	2 Stations	80	3+	Gatlinburg 2 SW	11	27	Monteagle	12.29	Greenville Exp Station	3.48
Texas	Zapata	95	7	3 Stations	12	21	Liberty	17.70	18 Stations	.00
Utah	Zion National Park	81	3	Scipio	-24	20	Silver Lake Brighton	3.97	2 Stations	.00
Vermont	2 Stations	72	3	Mount Mansfield	- 5	27	Mount Mansfield	8.31	Union Village Dam	2.81
Virginia	3 Stations	80	17	Mt Lake Biological Station	5	27	Big Meadows	16.58	Altavista	2.77
Virgin Islands	Cruz Bay	94	6	Cruz Bay	65	8	Estate Rust Op Twist	19.81	Truman Field FAA AP	7.99
Washington	2 Stations	71	11	Chesaw 4 NNW	-14	21	Rainier Paradise Rng Sta	29.40	Priest Rapids Dam	.46
West Virginia	Madison	83	6	Snowshoe	1	27	Thomas	6.45	Winfield Locks	2.10
Wisconsin	West Allis	70	2	2 Stations	-20	26	Wausaukee	4.81	Eau Claire FAA AP	1.10
Wyoming	3 Stations	76	5	Recluse 14 NNW	-31	21	Snake River	D 4.97	2 Stations	T

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m s							%
ALABAMA																																
BIRMINGHAM	189	995.6	1018.2	17.1	8.5	12.8	1.6	22.2	5+	-3.3	26	0	6	8.3	75	104	10	25	14	3	0	0	0.8	13	11.2	W	10	5	5	20	7.3	35
HUNTSVILLE	190	994.6	1018.0	16.2	6.8	11.5	1.3	23.9	5	-5.6	26	0	6	6.1	72	293	194	71	13	8	0	0	0.8	12	13.4	21	30	10	1	19	7.0	
MOBILE	64	1009.5	1017.4	20.6	11.5	16.1	1.3	25.0	17+	1.1	11	0	0	11.1	77	242	155	122	15	3	0	0	0.7	12	9.8	34	10	6	7	17	7.2	
MONTGOMERY	59	1010.5	1017.8	20.8	10.6	15.7	2.9	25.6	29	-0.6	27	0	3	10.0	72	71	-17	26	12	1	0	0	0.7	14	11.6	NW	9	8	5	17	6.9	39
ALASKA												B																				
ANCHORAGE	35	1002.0	1007.1	-5.4	-13.2	-9.3	-3.2	0.0	4	-19.4	30	0	30	-12.2	73	13	-12	8	6	0	320	229	1.7	2	9.4	2	22	7	6	17	6.9	61
ANNETTE	34			4.4	-0.5	2.0	-2.4	10.0	11	-9.4	21	0	15			297	-30	69	22		71	51			17.0	11	13+	5	5	20	7.5	
BARROW	9	1020.3	1020.8	-17.9	-23.1	-20.5	-2.4	-8.3	23+	-33.3	30+	0	30	-22.8	84	1	-6	1	4	0	28	152	2.7	4	17.9	10	18					
BARTER ISLAND	12			-16.7	-22.9	-19.8	-2.2	-9.4	22	-35.0	29	0	30			3	-8	6	8		43	279			14.8	26	23					
BETHEL	38	1001.7	1007.7	-8.2	-15.2	-11.7	-3.5	5.6	20+	-29.4	14	0	28	-17.8	63	15	-9	6	9	0	193	203	3.3	5	16.5	3	25+	11	7	12	5.4	
BETTLES	196	990.9	1017.0	-18.3	-26.6	-22.4	-3.9	-8.3	24	-37.8	29	0	30	-25.6	76	3	-18	2	4	0	30	279	2.1	35								
BIG DELTA	386			-16.3	-24.7	-20.5	-6.6	-7.8	3	-33.3	10	0	30			2	-9	1	3		81	305										
COLD BAY	29	998.6	1002.5	2.3	-3.2	-0.4	-1.7	7.2	19	-9.4	15+	0	23	-3.3	80	174	75	53	24	0	381	203	0.5	19	24.6	15	17	2	6	22	8.2	
FAIRBANKS	133	995.3	1013.6	-17.7	-26.3	-22.0	-5.8	-10.0	18	-36.1	30	0	30	-29.3	59	5	-12	3	6	0	130	279	0.8	1	12.1	2	11	7	6	17	6.4	
GULKANA	479			-15.6	-25.6	-20.6	-6.2	-6.7	1	-33.3	25+	0	30			12	-7	3	9		254	178										
HOMER	19			-2.3	-9.9	-6.1		4.4	20+	-15.0	30	0	30			10	-60	6	5	0	117	127			10.7	24	15	8	8	14	5.9	
JUNEAU	4	1007.1	1007.7	1.1	-3.9	-1.4	-1.7	5.6	1	-12.2	23+	0	24	-4.4	82	116	-24	23	20	0	696	356	2.4	10	11.2	13	4+	7	2	21	7.3	38
KING SALMON	15	1003.1	1005.1	-4.7	-15.2	-9.9	-4.4	7.2	18	-32.2	15+	0	26	-13.9	71	15	-22	6	7	0	135	102	2.2	4	13.0	16	17+	8	5	17	6.6	
KODIAK	4	1001.0	1005.2	2.1	-3.7	-0.8	-2.3	5.0	19+	-12.8	14	0	21	-5.6	71	99	-38	30	14	0	305	51	1.2	34	14.3	12	19	7	7	16	6.8	
KOTZEBUE	3	1014.2	1014.6	-13.2	-18.4	-15.8	-2.3	-2.8	19+	-25.6	29+	0	30	-18.9	78	3	-7	1	6	0	51	25	4.2	7	15.6	10	19+	16	3	11	4.5	
MC GRATH	105	998.3	1011.8	-16.2	-25.3	-20.8	-5.8	-7.8	18	-38.3	30	0	30	-23.9	74	17	-9	10	7	0	305	254	0.7	1	8.0	3	11	10	5	15	5.9	
NOME	4	1010.2	1011.0	-7.6	-15.9	-11.7	-2.6	3.9	21	-25.0	15	0	30	-17.2	64	5	-20	3	4	0	165	76	3.3	5	13.4	10	18	15	3	12	4.5	52
ST. PAUL ISLAND	7	1003.4	1004.4	1.2	-3.4	-1.1	-1.8	5.0	22+	-11.7	5+	0	24	-3.9	79	28	-38	11	16	0	201	127	3.5	4	21.9	13	19	1	7	22	8.1	
TALKEETNA	105			-8.1	-18.9	-13.5	-5.4	4.4	21	-26.1	16	0	30			6	-39	3	4	0	122	178			7.6	3	21+					
UNALAKLEET	5			-10.8	-18.7	-14.7		0.0	21+	-30.0	29	0	30			7		4	6		201	203			18.3	9	21+	10	3	17	6.0	
VALDEZ	11	1005.1	1006.2	-1.7	-6.7	-4.2	-0.9	10.0	21	-11.7	24+	0	30	-9.4	68	18	-126	6	8	0	445	203	3.3	6	13.4	36	21+	6	1	23	7.8	
YAKUTAT	9	1003.7	1004.8	1.4	-6.6	-2.6	-2.7	5.6	3	-16.7	17	0	28	-5.0	83	170	-205	27	21	0	1044	381	1.5	8	10.7	23	14	5	4	21	7.5	
ARIZONA																																
FLAGSTAFF	2135	788.0	1018.1	14.1	-4.2	5.0	2.6	23.3	3	-8.3	10	0	29	-5.0	58	19	-14	16	3	2	178	152	0.6	24	12.1	SW	6+	15	7	8	4.6	
PHOENIX	339	976.0	1015.0	26.3	11.2	18.8	3.3	30.6	3	7.8	24+	0	0	1.1	34	T	-12	T	0	0	0	0	1.0	11	14.3Y	SW	19	16	7	7	4.0	87
TUCSON	788	926.5	1014.5	24.2	8.8	16.5	1.8	30.0	4+	3.3	29	0	0	1.1	41	8	-6	8	2	0	0	0	1.6	16	13.4	SW	19	16	9	5	3.9	93
WINSLOW	1492	853.0	1019.1	16.2	-1.8	7.2	1.0	25.0	4	-8.3	9	0	24	-4.4	50	1	-8	1	2	0	T	T	1.5	21	17.9	22	19	16	5	9	4.5	
YUMA	59	1007.5	1014.7	26.7	11.5	19.1	1.6	30.6	3	7.2	22+	0	0	0.6	32	T	-6	T	0	0	0	0	2.0	35	10.7	N	9	16	12	2	3.4	92
ARKANSAS																																
FORT SMITH	136	1000.0	1016.9	17.2	5.3	11.3	1.1	25.0	20	-3.9	26	0	7	5.0	69	82	3	37	7	3	T	0	0.8	3	12.5	W	9	3	10	17	7.2	39
LITTLE ROCK	78	1007.5	1017.2	16.4	6.8	11.6	1.4	25.0	8	-3.9	26	0	2	6.7	75	237	139	66	12	7	0	0	0.3	7	10.3	SE	2+	5	4	21	7.6	53
CALIFORNIA																																
BAKERSFIELD	145	1002.0	1019.8	21.7	8.9	15.3	1.9	27.2	3	1.7	20	0	0	5.0	55	2	-15	2	2	0	0	0	0.4	9	7.6	33	11	10	13	7	5.2	
BISHOP	1252	875.7		19.7	-0.1	9.8	2.2	25.6	15	-8.3	20	0	18			1	-13	1	2		T	0			20.1Y		18	10	13	7	4.8	
BLUE CANYON	1609	840.5	1018.5	11.8	3.3	7.6	0.6	18.3	28+	-8.3	19	0	8	-4.4	49	182	-48	154	6		579	254	1.1	17	11.2	20	21					
EUREKA U	13			14.4	6.9	10.7	-0.3	21.1	25	-1.1	19	0	2			115	-32	26	18		T	0			17.9	SW	21	4	4	22	8.0	29
FRESNO	100	1008.1	1019.9	19.5	5.6	12.6	0.6	25.6	3	-2.8	20	0	2	5.6	68	12	-19	6	3	0	0	0	0.3	8	8.9	31	19	10	8	12	5.3	74
LONG BEACH	8	1014.6	1016.0	26.5	11.7	19.1	3.2	36.1	25	8.3	22	5	0	9.4	62	T	-35	T	0	0	0	0	0.6	25	10.3	32	6	15	5	10	4.6	
LOS ANGELES	30	1012.2	1015.8	23.9	12.4	18.2	2.3	32.8	25	8.9	23+	1	0	8.9	63	1	-44	1	1	0	0	0	0.7	27	18.3Y	NW	27	14	7	9	4.5	
LOS ANGELES U	82			25.4	12.6	19.1	2.0	33.3	25	8.9	23+	1	0			2	-49	2	1		0	0			9.8	NW	6	11	13	6	4.2	97
MT SHASTA R	1077	896.4	1022.7	9.6	-1.4	4.1	-1.3	16.1	29+	-12.8	20	0	19			71	-58	30	9		465	381			8.9	31	7					
OAKLAND	2	1020.0	1020.3	17.8	9.2	13.5	0.6	22.2	17	3.3	19	0	0	8.9	75	50	-10	38	4	0	0	0	0.7	27	13.0	13	21	10	7	13	5.8	
RED BLUFF	104	1007.5	1020.2	18.4	6.8	12.6	0.6	24.4	16+	-3.3	20	0	2	4.4	65	80	2	58	5	0	51	51	2.3	34	11.2	S	11+	8	2	20	7.1	74
SACRAMENTO	5	1019.0	1019.7	18.7	6.3	12.5	0.8	23.9	2	-1.1	19	0	2	5.6	70	49	-5	40	3	0	0	0	0.4	28	13.9	SE	21	10	10	10	5.4	63
SANDBERG R	1377	864.5	1017.7	15.6	6.2	10.9	1.8	22.2	2	-4.4	20	0	2	-5.6	38	7	-45	7	2		20	T	2.7	2	20.6	34	6					
SAN DIEGO	4	1014.9	1015.9	23.1	13.4	18.3	2.3	28.9	2	9.4	22	0	0	9.4	61	1	-30	1	3	1	0	0	1.1	29	7.6	NW	22+	16	6	8	4.3	82
SAN FRANCISCO	2	1019.3	1020.0	17.7	8.2	12.9	0.0	21.7	29+	2.2	19	0	0	7.8	74	56	-2	46	4	0	0	0	2.1	28	16.1	19	21	9	8	13	5.6	
SAN FRANCISCO U	16			18.3	11.2	14.8	0.7	22.8	17	6.7	19	0	0			50	-16	41	4													
SANTA MARIA	72			23.4	7.6	15.5	2.1	30.0	26+	2.2	12	0	0			4	-31	3	2		0	0						12	10	8	4.5	
STOCKTON	7	1019.3	1020.2	19.8	6.1	12.9	1.3	26.1	2	0.0	20+	0	2	7.2	74	22	-22	12	3	0	0	0	1.0	30	11.2	14	21	9	10	11	5.4	
COLORADO																																
ALAMOSA	2297			9.9	-8.8	0.6	1.7	19.4	4	-14.4	29+	0	29			16	10	14	4		10	T	0.5	23				14	9	7	4.5	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max 32.2 °C or above	Temperature: No of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Ice pellets: Total	Precipitation: Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy 4-7	No. of days (sunrise to sunset): Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	°C	C	C	°C	C		C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	809.0	1016.6	10.9	-3.6	3.7	0.6	22.2	5	-13.3	21	0	24	-7.2	51	15	4	13	4	1	48	25	1.5	4	17.9	30	26	11	7	12	5.2	
DENVER	1610	834.1	1014.3	12.1	-2.9	4.6	0.5	23.9	5	-16.1	20	0	20	-5.6	53	15	-4	7	5	0	104	76	0.3	22	15.2	W	26+	8	12	10	5.5	70
GRAND JUNCTION	1476	853.7	1019.2	11.1	-1.9	4.6	0.3	23.9	5	-10.0	20	0	24	-3.9	60	18	2	9	3	1	84	76	0.4	9	17.0	W	19	9	9	12	5.8	57
PUEBLO	1428	854.0	1015.3	14.8	-5.2	4.8	-0.1	25.6	5	-13.3	21	0	29	-4.4	57	4	-7	3	4	1	T	T	1.0	1	21.9	NW	26+	12	10	8	4.9	79
CONNECTICUT																																
BRIDGEPORT	2	1019.6	1020.3	13.3	6.7	10.0	2.2	20.6	11+	0.0	27+	0	2	3.9	69	125	28	62	15	1	25	0	1.4	34	16.5	6	8	5	7	18	7.7	
HARTFORD	52	1013.5	1020.1	11.2	2.6	6.9	1.7	21.1	4	-5.0	27	0	11	2.2	73	111	1	35	13	1	33	25	0.9	30	13.0	NW	27	2	7	21	8.1	36
DELAWARE																																
WILMINGTON	23	1017.3	1020.3	11.8	4.4	8.1	0.5	24.4	4	-4.4	14	0	9	3.3	73	156	67	42	18	1	10	T	1.0	35	13.0	30	17	1	7	22	8.4	
DIST.OF COLUMBIA																																
WASHINGTON DULLES	88	1008.1	1020.2	13.0	4.6	8.8	1.8	25.0	4	-7.2	27	0	12	3.9	73	115	37	21	19	3	T	T	0.5	33	13.0	31	17	2	5	23	8.6	
WASHINGTON NATIONAL	3	1018.0	1020.3	14.2	7.7	11.0	2.1	25.6	4	-3.9	27	0	3	4.4	67	122	49	25	18	1	T	T	1.3	36	17.9	NW	10	2	5	23	8.4	24
FLORIDA																																
APALACHICOLA U	6	1017.6	1018.1	21.6	12.1	16.8	0.7	25.0	17+	1.7	26+	0	0	12.8	79	114	46	52	11	1	0	0	1.3	11	11.6	N	10	8	4	18	6.4	63
DAYTONA BEACH	9	1016.6	1018.1	24.5	14.4	19.5	1.1	28.3	30+	4.4	27	0	0	13.9	74	77	23	43	10	4	0	0	0.5	5	8.9	12	29+	9	9	12	6.0	
FORT MYERS	5	1016.9	1017.4	26.7	15.7	21.2	0.4	30.6	22	6.1	27	0	0	15.6	76	38	5	13	4	0	0	0	1.3	5	9.4	36	12+	9	14	7	5.0	
JACKSONVILLE	8	1018.0	1018.9	23.1	10.8	16.9	0.7	28.3	4	-0.6	27	0	1	12.8	80	79	34	38	8	1	0	0	0.4	5	12.1	NW	26	9	5	16	6.2	47
KEY WEST	1	1015.6	1016.4	26.2	21.2	23.7	-0.3	29.4	4+	15.0	27	0	0	18.9	75	107	40	70	8	4	0	0	2.7	6	10.3	2	12	9	10	11	5.6	78
LAKELAND U	65			25.4	14.7	20.1	0.8	29.4	9	6.7	27+	0	0			38	-3	27	7		0	0						9	7	14	6.1	50
MIAMI	2	1017.3	1017.4	26.7	20.0	23.3	1.0	30.0	17	10.0	27	0	0	18.3	74	151	82	104	9	1	0	0	1.9	6	10.3	9	29+	5	14	11	6.4	55
ORLANDO/MC COY AFB	29	1014.2	1018.0	26.9	14.8	20.9	1.7	30.0	17+	5.0	27	0	0	15.0	74	66	26	19	7	1	0	0	0.8	4	11.2	34	11	6	6	18	6.6	
PENSACOLA	34	1013.2	1017.7	21.3	13.0	17.2	1.9	25.6	17	1.7	11	0	0	12.2	78	105	20	26	11	4	0	0	1.2	10	10.7	35	10	7	6	17	6.5	
TALLAHASSEE	17	1016.3	1018.7	22.3	9.3	15.8	0.8	26.1	8	-3.3	14	0	7	11.7	82	89	18	20	9	0	0	0	0.5	10	8.0	17	28+	6	5	19	6.7	
TAMPA	6	1017.6	1017.9	25.3	14.3	19.8	0.5	28.9	4	4.4	13	0	0	14.4	76	48	3	28	8	1	0	0	1.1	7	10.3	31	10	6	8	16	6.4	51
WEST PALM BEACH	5	1016.6	1017.2	26.9	18.2	22.6	0.9	30.0	10+	8.3	27	0	0	17.2	73	148	85	76	11	1	0	0	1.5	7	9.8	8	29+	7	11	12	6.0	
GEORGIA																																
ATHENS	244	989.2	1018.2	17.4	8.1	12.8	1.9	23.9	9	-3.9	27	0	7	7.2	75	123	38	79	12	2	0	0	0.4	4	10.3	27	10	9	2	19	6.7	
ATLANTA	308	981.0	1018.2	17.2	7.6	12.4	1.6	22.8	8	-3.3	27+	0	4	6.1	72	182	95	99	13	2	0	0	1.3	7	14.8	8	5	8	4	18	6.9	46
AUGUSTA	41	1013.5	1018.9	20.8	8.6	14.7	2.7	26.7	9	-3.3	27+	0	6	8.3	73	94	38	40	10	0	0	0	0.5	29	10.3	30	26+	9	6	15	6.3	
COLUMBUS	117	1004.4	1018.4	20.7	9.5	15.1	2.7	25.0	1	-1.7	27+	0	6	10.0	77	155	80	122	11	3	0	0	0.8	8	9.4	18	4	7	5	18	6.9	
MACON	108	1005.8	1019.0	20.8	8.9	14.8	1.9	25.6	17+	-2.8	27+	0	5	10.0	78	86	25	65	9	0	0	0	0.4	5	10.7	SW	16	6	6	18	6.9	43
ROME	194			17.3	7.0	12.2	2.4	23.9	1	-4.4	26	0	8			155	60	65	15		0	0										
SAVANNAH	14	1017.3	1019.0	21.9	10.5	16.2	2.3	26.7	22+	-1.7	27	0	4	10.6	73	53	3	28	7	1	0	0	0.2	7	12.5	W	10	7	7	16	6.7	49
HAWAII																																
HILO	8	1014.9	1016.1	29.0	18.9	24.0	0.9	31.1	30	17.2	23+	0	0	19.4	80	223	-127	64	17	0	0	0	0.9	18	8.5	E	27	10	14	6	5.0	54
HONOLULU	2	1014.9	1015.4	29.9	21.8	25.9	1.2	31.7	9+	18.9	19	0	0	19.4	70	15	-60	8	7	0	0	0	3.0	7	13.0	E	4	7	17	6	5.0	72
KAHULUI	15	1012.9	1015.0	30.1	19.9	25.0	0.9	32.8	16	16.1	20	2	0			6	-53	5	4	0	0	0	3.1	6	13.9	E	6+	21	6	3	3.0	81
LIHUE	31	1011.2	1016.2	28.4	21.8	25.1	1.1	30.0	22	18.3	28	0	0	18.9	72	47	-96	14	15	0	0	0	2.5	7	11.2	E	3	7	14	9	5.7	54
IDAHO																																
BOISE	865	918.1	1020.0	9.4	-1.0	4.2	-0.1	18.3	4	-11.7	20	0	14	-3.3	62	47	14	17	14	0	119	76	0.9	13	11.6	SE	11+	4	3	23	7.8	36
LEWISTON	431			7.9	0.3	4.1	-0.6	14.4	25+	-10.6	21	0	12			42	10	12	13		236	229			26.4Y		1	2	8	20	8.0	
POCATELLO	1358	863.9	1019.4	8.3	-2.7	2.8	0.8	18.3	5	-14.4	20	0	18	-5.6	60	24	-3	15	8	1	66	51	3.8	22	16.5	W	15	2	12	16	7.5	43
ILLINOIS																																
CAIRO U	96			13.9	7.0	10.5	1.4	22.2	8	-9.4	26	0	4			82	-16	22	9	0	T	T			15.6	SW	9					32
CHICAGO O HARE	201	991.9	1016.8	8.4	0.5	4.4	0.4	22.8	2	-16.7	26	0	15	0.6	75	52	-1	20	13	2	132	102	1.5	24	12.5	19	20	5	8	17	7.4	
CHICAGO MIDWAY	185	994.2	1017.2	8.5	1.1	4.8	0.1	23.9	2	-15.6	26	0	16	0.0	70	61	5	23	13	4	160	127	1.4	23	14.3	S	20	5	9	16	7.6	32
MOLINE	177	995.3	1017.3	8.2	-0.7	3.7	-0.3	21.1	3	-21.1	26	0	17	-1.7	70	71	23	33	13	1	122	76	1.0	26	13.9	W	10	5	6	19	7.2	31
PEORIA	199	992.9	1017.4	8.7	0.5	4.6	0.2	21.7	2	-18.9	26	0	15	0.0	73	45	-6	24	15	2	163	102	0.8	22	15.6	W	17	3	8	19	7.7	35
ROCKFORD	221	989.8	1017.4	6.8	-1.8	2.5	-0.6	21.7	3	-23.3	26	0	20	-1.7	72	67	7	46	11	1	185	152	0.8	24	12.1	18	20	6	6	18	7.3	
SPRINGFIELD	179	995.3	1017.7	10.3	1.6	6.0	0.5	22.8	2	-17.2	28	0	12	1.7	75	41	-13	13	12	0	163	152	0.9	24	16.1	W	17	3	6	21	7.8	43
INDIANA																																
EVANSVILLE	116	1003.7	1017.8	13.2	5.4	9.3	2.2	24.4	2	-11.1	26	0	7	4.4	73	109	29	43	11	3	99	102	0.5	24	13.0	SW	10+	2	6	22	8.0	31

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow Ice pellets				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	987.1	1017.9	9.1	1.7	5.4	0.8	22.2	2	-13.3	26	0	15	1.1	74	61	-7	20	19	0	180	102	1.3	23	13.4	W	9	1	6	23	8.8	26
INDIANAPOLIS	241	988.5	1018.0	11.8	3.6	7.7	2.3	25.0	2	-12.2	26	0	11	3.3	78	76	-2	30	15	2	71	51	0.6	21	13.0	NW	25	4	5	21	8.2	30
SOUTH BEND	236	988.2	1016.7	9.4	2.3	5.9	1.7	22.8	3+	-15.0	26	0	13	2.8	79	10H	40	34	17	2	770	533	1.3	20	11.2	29	20	0	6	24	8.9	
IOWA																																
BURLINGTON	211			9.2	-0.1	4.6	0.2	19.4	20+	-18.9	26	0	18	-0.6	69	89	49	64	11	1	91	51	0.8	27	11.2	17	27+	3	8	19	7.6	
DES MOINES	286	981.4	1017.0	8.6	-0.7	3.9	0.7	17.8	20	-17.8	26	0	19	-2.2	68	18	-19	11	7	1	56	51	0.8	28	17.0	NW	10	8	3	19	6.8	41
DUBUQUE	322	977.3		5.3	-3.2	1.1	-1.1	16.1	20+	-27.2	26	0	18			77	14	26	14		295	203										
SIOUX CITY	334	976.3	1017.2	6.8	-2.9	1.9	-0.4	17.2	3	-18.3	26	0	21	-3.9	68	48	25	43	5	1	145	127	0.8	29	25.0	NW	9	9	4	17	6.4	51
WATERLOO	265	984.8	1017.4	6.2	-4.0	1.1	-0.6	16.7	3	-27.2	26	0	19	-4.4	67	48	10	14	11	1	284	178	0.8	24	14.3	23	9	4	8	18	7.5	
KANSAS																																
CONCORDIA	448	963.1	1017.1	10.9	-0.6	5.2	-0.1	18.9	19	-11.1	26+	0	19	-1.1	67	44	24	29	7	0	36	25	0.4	25	14.8	NW	20+	8	6	16	6.4	65
DODGE CITY	787	924.5	1016.3	14.2	-0.3	6.9	0.9	22.8	19+	-12.2	21	0	19	-2.2	60	10	-5	4	3	0	18	T	0.4	23	17.0	S	18	10	5	15	5.9	66
GOODLAND	1114	886.9	1015.9	11.6	-3.9	3.8	0.2	18.9	13	-14.4	21	0	25	-3.9	63	11	-2	12	4	0	56	25	1.4	27	17.4	34	8	11	8	11	5.2	
TOPEKA	267	985.1	1017.4	11.3	0.6	5.9	-0.1	20.0	4	-12.2	26	0	17	1.1	73	86	54	57	9	1	T	T	0.4	35	14.3	NW	9	7	4	19	7.2	34
WICHITA	403	968.5	1017.1	13.2	2.5	7.8	0.7	21.1	19	-6.1	26	0	10	2.8	73	60	31	33	5	1	T	T	0.8	2	19.2	N	1	5	10	15	6.6	50
KENTUCKY																																
COVINGTON	265	986.1	1018.1	11.7	3.2	7.4	0.9	23.9	5	-10.6	27+	0	12	3.3	76	99	21	30	13	2	102	102	0.7	22	10.3	30	25	1	9	20	8.2	
LEXINGTON	294	982.1	1017.9	13.9	4.9	9.4	2.4	26.1	5	-8.9	26	0	10	3.9	72	100	15	31	16	0	43	51	1.1	17	12.1	19	20	4	5	21	7.9	
LOUISVILLE	145	999.7	1017.7	13.8	5.7	9.8	2.6	25.0	5	-8.3	26	0	6	5.0	75	155	71	32	13	2	122	102	0.5	23	12.1	W	10	3	6	21	8.0	29
LOUISIANA																																
BATON ROUGE	20	1014.6	1017.3	21.4	11.2	16.3	1.6	27.8	20	1.7	11	0	0	12.2	79	263	165	82	13	5	0	0	0.4	11	13.9	33	29	6	2	22	7.3	
LAKE CHARLES	3	1015.6	1016.6	21.8	11.3	16.6	0.9	27.2	20+	1.7	11+	0	0	12.8	83	177	74	82	11	5	0	0	0.7	8	10.3	34	29	8	6	16	6.6	
NEW ORLEANS	1	1015.9	1016.9	21.9	12.3	17.2	1.6	27.8	17+	3.9	14	0	0	14.4	84	223	124	55	17	8	0	0	0.6	10	10.3	27	29	6	6	18	7.1	35
SHREVEPORT	77	1007.1	1016.4	19.8	7.3	13.6	0.2	28.3	16	-1.1	11	0	2	8.9	78	54	-37	20	8	3	0	0	0.4	12	10.7	29	9	6	5	19	7.1	38
MAINE																																
CARIBOU	190	994.9		5.2	-3.8	0.7	1.1	15.6	11+	-15.0	28	0	24			41	-47	13	12		140	76						5	6	19	7.4	
PORTLAND	13	1017.6	1020.1	8.8	-0.6	4.1	0.4	19.4	4	-8.3	27+	0	21	1.1	81	164	41	75	14	1	48	25	0.5	25	13.0	NW	27	3	7	20	7.8	41
MARYLAND																																
BALTIMORE	45	1014.6	1020.3	13.4	5.7	9.6	1.7	25.6	4	-3.3	27+	0	5	4.4	72	127	48	35	18	1	15	T	0.7	35	14.3	NW	10	1	10	19	8.1	27
MASSACHUSETTS																																
BLUE HILL OBS R	192			10.1	2.6	6.4	0.7	22.2	4	-6.1	28	0	12			81	-48	53	13		20	25			20.6	WSW	27					34
BOSTON	5	1019.3	1020.4	12.0	5.9	8.9	1.6	19.4	16+	-1.7	28	0	3	4.4	75	65	-50	37	10	3	18	T	0.8	27	16.5	W	27	5	4	21	7.7	30
WORCESTER	301	982.1		8.8	1.3	5.1	0.7	21.1	4	-7.2	27	0	14	0.0	72	94	-25	35	15	2	56	25	1.1	29	14.3	27	27	4	5	21	8.1	
MICHIGAN																																
ALPENA	210	990.9	1016.7	5.8	-2.8	1.5	-0.1	16.7	2	-17.2	29	0	21	-0.6	84	59	-3	11	15	0	495	356	0.8	21	11.6	N	25	4	5	21	8.0	25
DETROIT	189			9.3	3.8	6.6	1.5	21.1	3	-7.2	27+	0	11							0					11.6	23	11+					
DETROIT METRO	193	992.6	1017.2	8.1	1.3	4.7	0.2	21.7	3	-10.6	27	0	15	0.6	77	73	14	15	16	0	188	152	1.1	23	15.2	W	11	0	4	26	9.1	22
FLINT	235	988.5	1016.7	8.6	1.7	5.2	1.7	20.6	2	-10.6	27+	0	15	1.7	80	68	10	17	19	0	86	76	1.5	21	11.6	28	11	0	5	25	9.0	
GRAND RAPIDS	239	987.1	1016.8	8.1	0.2	4.2	0.4	22.8	3	-15.0	27	0	17	1.1	80	59	-12	15	18	2	269	127	0.7	20	13.4	W	21	1	5	24	8.8	19
HOUGHTON LAKE	350	973.6	1016.5	5.8	-1.7	2.1	0.8	18.3	2	-15.6	27	0	21	0.0	85	54	-10	14	17	0	406	229	0.7	21	10.3	24	21	2	6	22	8.3	
LANSING	256	984.4	1016.8	8.1	0.3	4.2	0.6	21.1	2	-13.3	27	0	17	1.7	85	55	-2	13	20	1	206	152	1.3	22	13.9	W	11	0	5	25	9.1	25
MARQUETTE U	206			4.6	-1.3	1.7	0.4	15.0	9	-12.2	25+	0	20			64	-12	13	18		310	152			16.1	SW	21					22
MUSKEGON	191	993.2	1016.6	7.7	0.6	4.2	0.2	20.6	2	-15.0	27	0	16	-0.6	71	79	2	16	18	3	363	203	0.4	19	14.3	18	20+	1	6	23	8.6	
SAULT STE MARIE	220	988.8	1016.0	4.8	-2.2	1.3	0.9	15.6	1	-18.9	27	0	19	-1.1	85	120	37	24	21	0	411	229	1.1	12	13.9	SW	21	2	5	23	8.5	18
MINNESOTA																																
DULUTH	435	962.1	1015.1	1.4	-5.9	-2.2	-0.2	13.3	1	-23.3	25	0	22	-6.1	74	60	16	34	13	1	406	254	0.7	22	17.4	S	20	3	7	20	7.8	34
INTERNATIONAL FALLS	359	970.2	1014.9	-0.5	-10.0	-5.2	-1.3	15.6	6	-32.8	25	0	26	-8.3	79	89	56	40	11	0	620	559	0.8	23	13.9	36	9	2	6	22	8.2	
MINNEAPOLIS	254	984.8	1016.4	3.8	-5.2	-0.7	-0.9	16.1	3	-26.7	26	0	23	-4.4	76	36	6	10	14	2	297	229	0.7	21	18.3	W	20	3	8	19	7.6	31
ROCHESTER	395	967.5	1016.5	4.7	-4.7	0.0	-0.3	16.7	3	-28.9	26	0	22	-3.9	76	38	12	14	14	1	254	178	1.7	22	17.4	27	20	6	4	20	7.5	
ST CLOUD	313	977.3		2.9	-7.4	-2.2	-1.1	15.0	3	-27.2	26	0	26			95	67	56	15		229	127						6	6	18	7.1	
MISSISSIPPI																																
JACKSON	94	1005.4	1017.2	19.9	7.9	13.9	1.0	26.1	16+	-2.8	11	0	6	10.0	79	253	155	99	15	4	0	0	0.7	11	10.3	20	27+	5	6	19	7.3	37

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	°C	°C	°C	°C	°C		°C				°C	%	mm	mm	mm			mm	mm	m/s		m/s							%
MISSISSIPPI																																
MERIDIAN	88	1006.4	1017.5	20.7	9.2	14.9	2.6	26.7	8	-3.3	11	0	3	9.4	74	150	60	43	14	2	0	0	0.4	14	9.8	5	5	5	5	20	7.4	
MISSOURI																																
COLUMBIA REGIONAL	270	984.4	1017.3	11.7	2.8	7.3	0.7	22.2	20+	-13.3	26	0	13	2.2	73	46	0	17	9	4	124	102	0.4	24	17.4	NW	10	4	5	21	7.8	37
KANSAS CITY	309	979.7	1017.3	10.2	1.2	5.7	-0.7	18.3	20+	-12.8	26	0	14	0.6	72	35	-3	16	10	2	T	T	0.1	35	14.3	SE	8	7	4	19	7.1	57
ST JOSEPH	247			10.8	1.2	6.1	0.3	20.0	20	-12.2	26	0	16			49	18	34	6		T	0										
ST LOUIS	163	997.3	1017.8	11.2	2.9	7.1	-0.2	21.7	2	-13.9	26	0	12	3.3	81	110	47	31	15	1	170	152	0.6	27	17.0	NW	10	4	5	21	7.8	27
SPRINGFIELD	386	971.2	1016.9	13.1	4.0	8.6	1.1	22.8	20	-11.1	26	0	12	3.3	72	77	17	23	10	3	25	T	0.8	18	15.6	S	8	7	2	21	7.5	33
MONTANA																																
BILLINGS	1087	889.6	1016.5	5.3	-5.5	-0.1	-2.2	18.9	11	-27.8	21	0	22	-8.3	59	36	18	18	8	0	358	330	3.4	27	19.2	NW	14	5	7	18	7.2	43
GLASGOW	696	932.3	1017.0	1.4	-9.8	-4.2	-2.5	16.1	12	-25.0	21	0	29	-9.4	69	6	-4	2	8	0	109	102	0.9	32	17.0	29	26+	4	12	14	6.5	
GREAT FALLS	1116	886.6	1017.6	5.1	-6.4	-0.7	-2.1	19.4	11	-27.2	20	0	23	-8.9	58	11	-10	4	11	0	122	102	5.1	24	19.2	SW	14	4	9	17	7.3	45
HAVRE	788	921.8	1016.3	4.6	-9.7	-2.6	-1.4	16.7	12	-31.1	21	0	25	-9.4	62	15	4	6	7	0	130	76	2.5	25	18.8	W	2	9	8	13	6.1	44
HELENA	1167	880.5	1018.9	5.6	-6.5	-0.4	-0.3	14.4	2	-24.4	21	0	29	-8.9	56	12	-3	5	8	0	173	127	2.9	27	21.0	NW	26	4	10	16	7.3	36
KALISPELL	904	912.0	1019.3	3.4	-7.0	-1.8	-1.1	12.2	12	-27.2	21	0	28	-7.2	66	37	2	12	15	0	333	178	1.0	20	13.0	19	2+	1	9	20	8.4	
MILES CITY	801	921.1	1016.7	3.9	-7.9	-1.9	-2.2	17.2	2	-27.8	25	0	27	-8.3	67	38	25		8	0	493		1.7	31								
MISSOULA	972	905.2	1019.9	3.8	-4.6	-0.4	-0.6	11.1	12+	-18.9	21	0	27	-3.9	80	26	2	6	17	0	244	152	0.5	25	18.3	NW	29	0	7	23	8.7	30
NEBRASKA																																
GRAND ISLAND	561	949.5	1017.0	9.8	-1.9	4.0	0.6	18.9	14	-12.8	25	0	19	-2.8	66	29	13	26	6	1	64	51	0.7	28	19.7	35	9	9	6	15	6.2	
LINCOLN	359	973.6	1017.1	9.4	-2.4	3.5	-0.4	17.8	4	-13.9	26	0	20	-2.2	71	52	27	49	5	0	84	76	0.9	29	20.1	NW	9	8	4	18	6.5	52
NORFOLK	471	959.7	1016.7	7.3	-3.4	1.9	-0.4	16.7	4	-16.7	25	0	22	-3.9	69	39	23	35	6	1	193	178	1.6	28	21.5	33	9	8	7	15	6.4	
NORTH PLATTE	846	917.0	1017.0	9.7	-5.6	2.1	-0.2	19.4	13+	-18.3	21	0	27	-5.0	64	10	-3	6	4	0	8	T	0.6	31	21.5	N	8	10	7	13	5.8	70
OMAHA	298			9.6	-1.1	4.3	-0.2	18.9	4	-15.0	26	0	17	-1.7	67	74	45		4	0	T		0.7	28								
OMAHA (NORTH) WSFO	399			8.2	-1.6	3.3	0.0	17.2	20+	-16.1	25	0	18			43	18	39	7	0	76	76			19.7	NW	9	8	7	15	6.3	52
SCOTTSBLUFF	1206	877.8	1015.9	10.7	-3.9	3.4	1.1	23.3	2	-19.4	21	0	23	-5.6	56	23	13	10	5	1	160	51	1.8	31	15.6	29	26	9	9	12	5.7	
VALENTINE	789	922.5		8.1	-5.4	1.3	-0.1	21.1	2	-18.9	21	0	26	-7.2	57	15	4	13	5		76	25	1.8	29	24.6	NW	26	13	5	12	5.1	64
NEVADA																																
ELKO	1539	846.3	1019.7	12.2	-4.5	3.8	2.3	21.1	3	-21.1	20	0	22	-7.8	47	24	-1	17	4	0	76	25	1.5	24	12.1	19	11	9	7	14	6.1	
ELY	1906	810.0	1019.3	11.3	-6.4	2.4	1.3	20.0	3+	-20.0	20	0	28	-10.6	42	6	-11	5	2	0	51	25	1.9	22	21.0	SE	5	8	9	13	6.0	76
LAS VEGAS	659	940.4	1017.2	21.8	6.2	14.0	2.2	28.9	4	-0.6	20	0	1	-7.2	25	T	-11	T	1	0	0	0	1.6	27	15.2	SW	5	12	8	10	4.5	84
RENO	1342	868.3	1019.6	15.1	-4.1	5.5	1.0	22.2	1	-13.9	20	0	24	-5.6	50	6	-11	6	1	0	13	25	0.6	26	13.9	W	18	8	9	13	6.1	89
WINNEMUCCA	1311	871.0	1020.1	13.9	-4.4	4.7	1.8	21.7	4	-21.7	20	0	22	-6.1	50	19	-6	9	4	0	76	76	1.1	23	13.4	W	22	6	11	13	6.3	60
NEW HAMPSHIRE																																
CONCORD	104	1007.5	1020.4	9.3	-1.1	4.1	0.8	20.6	11	-11.1	15	0	19	-0.6	73	78	-23	34	14	1	38	51	0.5	28	13.0	W	27	3	6	21	8.0	28
MT WASHINGTON OBS	1909			-1.1	-8.2	-4.6	1.7	8.9	4	-24.4	27	0	23			289	94	56	21	1	1092	178			47.4	W	27	2	5	23	8.5	28
NEW JERSEY																																
ATLANTIC CITY	20	1017.3	1019.7	13.8	5.7	9.8	2.0	23.3	5	-3.9	14	0	10	5.6	76	121	14	58	16	0	T	T	0.4	32	16.5	9	7	1	8	21	8.1	21
ATLANTIC CITY U	3			12.1	6.7	9.4	0.3	18.9	5	-2.8	14	0	4			172	78	99	17						20.6	E	7					
NEWARK	2	1019.3	1020.2	11.5	5.3	8.4	0.5	20.0	4	-2.8	27+	0	7	4.4	79	293	201	183	17	2	38	25	1.1	32	12.1	29	26	1	11	18	8.0	
TRENTON U	17			11.7	5.4	8.6	0.7	22.8	4	-2.8	27	0	6			169	86	74	16		23	T			15.6	NW	17+	1	8	21	8.3	24
NEW MEXICO																																
ALBUQUERQUE	1619	838.8	1016.7	16.1	-0.1	8.0	1.1	22.8	3	-3.9	30+	0	19	-5.6	43	11	3	9	3	0	0	0	1.1	33	17.0	SW	19	14	10	6	3.9	79
CLAYTON	1515			15.0	-2.2	6.4	0.7	25.6	26	-11.7	21	0	21			5	-4	4	3		33	25										
ROSWELL	1112	889.9	1014.6	20.5	2.9	11.7	3.4	28.3	26	-2.2	10	0	8	-3.9	38	12	5	12	2	1	0	0	0.5	25	20.6	SW	8	17	11	2	3.2	89
NEW YORK																																
ALBANY	84	1009.5	1020.2	10.1	1.7	5.9	1.7	22.8	3	-7.2	27	0	14	1.7	75	123	51	33	17	2	213	102	1.2	23	15.6	W	17	1	7	22	8.5	31
BINGHAMTON	485	959.4	1019.1	7.4	1.6	4.6	1.1	18.9	4	-8.9	27	0	15	1.1	77	130	51	38	21	0	343	229	1.9	20	13.0	W	26	1	3	26	9.1	19
BUFFALO	215	991.5	1017.8	9.7	2.9	6.3	1.9	22.8	3	-7.2	27	0	11	2.2	77	113	18	22	19	2	381	152	1.7	22	15.2	NW	26	0	2	28	9.6	22
NEW YORK U	40	1016.9	1020.3	10.8	6.2	8.5	-0.1	18.3	10	-1.7	27	0	4	3.3	73	311	216	205	15	1	5	T	1.1	35	13.4	W	26					
NEW YORK KENNEDY	4	1019.6	1020.3	11.4	5.5	8.4	0.4	21.1	4	-2.8	27	0	5	4.4	78	167	68	89	14	2	15	T	1.2	33	14.3	30	27+	4	7	19	7.6	
NEW YORK LA GUARDIA	3	1019.6	1020.7	10.8	6.2	8.5	0.0	18.3	10	-1.7	27	0	4	3.3	73	211	115	113	14	1	T	T	1.3	35	17.0	W	27	3	8	19	7.9	
ROCHESTER	167	997.6	1018.3	10.2	2.7	6.4	1.7	23.9	3	-5.6	27+	0	10	3.3	82	96	24	24	18	1	323	127	1.6	21	13.0	SW	18	0	1	29	9.3	14
SYRACUSE	125	1003.7	1019.0	10.3	2.9	6.7	1.7	23.3	3	-6.7	27	0	10	3.3	80	135	52	29	19	2	287	152	0.5	19	13.9	W	26	1	1	28	9.1	14

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Ice pellets				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NORTH CAROLINA																																
ASHEVILLE	652	942.4	1019.2	14.2	4.9	9.6	1.7	21.7	8	-8.3	27	0	8	5.0	77	175	100	102	15	3	T	T	0.2	28	12.5	33	26	8	3	19	6.7	37
CAPE HATTERAS R	2	1019.0	1019.5	19.3	11.2	15.2	1.9	26.7	3	0.0	27+	0	2	11.1	80	305	192	193	14	3	0	0	0.7	36	8.9	31	26	9	9	12	5.8	51
CHARLOTTE	224	991.9	1019.6	16.6	7.3	12.0	1.4	25.0	4	-4.4	27+	0	6	6.1	72	107	37	46	10	3	0	0	0.7	5	14.3	SW	10	7	8	15	6.5	44
GREENSBORO	273	987.8	1019.8	14.8	4.9	9.9	0.8	23.9	4	-8.3	27	0	8	5.6	79	79	12	20	13	0	T	0	0.5	36	14.3	SW	10	7	4	19	7.1	39
RALEIGH	132	1003.7	1019.6	16.6	5.4	11.0	1.0	25.6	5	-7.2	27	0	9	5.6	75	56	-15	34	10	2	T	0	0.3	35	11.2	30	26	9	4	17	6.5	38
WILMINGTON	9	1018.0	1019.5	20.7	9.1	14.9	1.8	28.9	4	-2.8	27	0	6	10.6	82	161	84	99	7	2	0	0	0.8	1	13.9	NW	26	7	10	13	6.4	55
NORTH DAKOTA																																
BISMARCK	502	955.0	1016.6	3.1	-9.3	-3.1	-1.4	20.6	2	-28.9	25	0	27	-8.9	67	35	20	19	10	0	411	330	1.3	31	17.9	NW	20	12	7	11	5.5	53
FARGO	273	981.4	1015.5	0.8	-7.9	-3.6	-1.7	13.9	7	-28.3	25	0	26	-6.7	78	116	98	51	8	0	615	432	0.6	26	21.0	N	9	7	8	15	6.6	39
WILLISTON	579	945.8	1016.5	2.3	-10.7	-4.2	-2.1	15.0	2	-28.9	25	0	29	-9.4	71	25	11	12	6	0	213	152	2.2	29	16.1	W	2	10	8	12	5.9	52
OHIO																																
AKRON	368	973.2	1018.4	10.5	2.4	6.5	1.7	22.2	9+	-10.6	27	0	15	1.7	71	106	43	18	17	1	254	127	1.7	19	12.1	25	17	0	2	28	9.5	
CINCINNATI ABBE OB	232			12.3	4.3	8.3	1.3	23.9	5+	-9.4	27+	0	11			100	22	32	12						9.4	W	11					30
CLEVELAND	237	988.8	1018.6	11.5	3.4	7.4	2.1	25.0	3	-12.2	27	0	12			92	22	19	17	1	246	102	2.3	21	12.5	24	11	0	1	29	9.8	12
COLUMBUS	247	988.2	1018.5	11.3	3.2	7.3	1.9	24.4	5	-9.4	27	0	13	1.7	70	96	28	28	16	3	56	51	1.1	20	13.4	W	17	1	4	25	8.9	17
DAYTON	303	981.4	1017.9	11.3	2.8	7.1	1.7	24.4	5	-9.4	26	0	16	2.8	77	68	3	21	13	1	61	51	1.1	21	12.5	SW	10	0	5	25	8.9	20
MANSFIELD	395			10.3	2.3	6.3	0.8	22.8	3	-11.7	27	0	15	2.2	76	77	13	20	15	1	107	76	2.2	21	11.6	21	15	0	2	28	9.4	
TOLEDO	204	992.2	1017.7	8.9	1.1	5.0	0.8	21.1	3	-12.2	29+	0	14	1.1	76	69	10	15	19	0	168	76	1.1	22	15.2	SW	10	0	7	23	8.9	15
YOUNGSTOWN	359	974.9	1018.3	10.0	2.4	6.2	1.6	23.9	5	-11.1	27	0	14	3.3	82	116	40	26	18	0	142	76	1.6	18	11.2	26	11	0	1	29	9.5	
OKLAHOMA																																
OKLAHOMA CITY	392	969.9	1016.7	16.7	4.3	10.5	0.9	23.3	20	-3.3	26	0	7	3.3	66	40	5	29	7	0	T	T	0.9	1	15.2	N	9	6	10	14	6.2	51
TULSA	198	991.9	1016.4	15.7	5.4	10.6	0.9	26.1	20	-5.6	26	0	6	4.4	71	59	11	46	7	3	T	T	0.3	6	13.9	SE	19	6	9	15	6.8	39
OREGON																																
ASTORIA	2	1017.6	1018.4	10.6	3.4	7.0	-1.1	17.2	11	-4.4	19	0	6	5.0	87	314	66	59	22	0	T	T	1.8	17	16.5	19	1	3	6	21	8.2	
BURNS J	1265			7.4	-4.4	1.5	-0.6	16.1	1	-19.4	20	0	27			53	17	26	8		371	279			17.9Y	SW	22	4	5	21	7.5	
EUGENE	109	1006.4	1020.2	10.8	2.0	6.4	-1.2	17.8	10	-4.4	20+	0	12	4.4	86	232	66	77	21	0	5	T	1.7	18	10.3	19	1	0	4	26	9.3	
MEDFORD	396	972.9	1021.6	10.4	1.0	5.7	-0.7	20.0	11	-9.4	20	0	13	2.8	83	125	46	53	14	0	216	178	0.5	30	9.8	29	11	1	7	22	8.2	
PENDLETON	452	964.8	1019.7	8.0	-1.0	3.5	-1.7	18.9	10	-12.8	21+	0	13	-1.1	74	51	13	15	13	0	216	203	2.0	26	14.3	27	2+	2	9	19	8.0	
PORTLAND	6	1018.3	1019.4	9.7	2.8	6.3	-1.1	17.2	25	-3.3	22+	0	11	3.3	82	141	-1	38	24	0	193	178	2.1	16	13.4	SW	25+	1	3	26	8.8	44
SALEM	60	1011.9	1019.4	11.3	2.6	7.0	-0.3	17.2	25	-9.4	20	0	10	3.9	80	157	3	49	20	1	155	152	2.2	21	11.6	22	1	1	5	24	8.8	
SEXTON SUMMIT R	1169	885.9	1020.5	6.2	0.4	3.3	-1.8	11.7	11	-8.3	20+	0	13			131	-11	42	20		391	229	3.1	18	26.4Y	S	23					
PACIFIC AREA																																
GUAM TAGUAC R	110			29.4	23.0	26.2	0.0	31.1	2	21.1	27+	0	0			314	98	155	23		0	0			11.2	E	23	0	17	13	7.6	48
JOHNSTON	2	1011.9	1012.2	27.9	24.8	26.4	0.1	28.9	21+	21.7	9	0	0	22.8	80	333	275	119	12	2	0	0	6.3	11	16.5	E	9	10	7	13	5.9	65
KOROR R	29	1005.8		31.9	24.8	28.3	0.6	32.8	26+	23.9	25+	17	0			187	-84	38	21	6	0	0	0.2	29	11.2	SW	12	0	9	21	8.1	61
KWAJALEIN	2	1008.5		30.6	25.7	28.2	0.6	31.7	13	23.3	1	0	0			223	-69	56	19	2	0	0	3.9	7	11.6	9	27	1	10	19	8.1	
MAJURO	3	1008.8		30.4	24.2	27.3	0.0	31.7	15+	23.3	28+	0	0			301	-90	59	21		0	0	2.5	7	12.1	E	25	0	5	25	9.1	67
PAGO PAGO	4	1010.2	1010.4	29.3	24.9	27.1	0.5	30.6	25+	22.8	4	0	0	23.3	80	376	114	146	18	3	0	0	5.3	12	14.3	E	24	0	11	19	8.2	
PONAPE R	37			31.3	23.1	27.2	0.4	33.3	11+	21.7	17+	13	0			410	-26	60	26	3	0	0			9.4	E	29	0	4	26	9.1	43
TRUK MOEN ISLAND	2	1008.8		30.2	24.4	27.3	-0.1	32.2	14	22.2	20	1	0			316	12	53	25	1	0	0	1.6	5	11.6	N	30+	0	0	30	9.9	41
WAKE	3	1013.9	1014.3	29.2	24.1	26.7	-0.2	30.6	6+	21.7	9	0	0	22.2	79	72	-5	40	15	1	0	0	8.1	6	15.6	E	10	13	14	3	4.3	69
YAP R	13	1007.1		31.2	23.5	27.3	-0.2	32.2	11	22.2	25+	1	0			241	-14	62	23	3	0	0	1.0	8	8.5	SE	20+	0	11	19	8.1	51
PENNSYLVANIA																																
ALLENTOWN	118	1006.4	1020.7	9.9	3.6	6.8	1.1	24.4	4	-3.9	27+	0	11	2.2	74	156	65	55	18	3	64	51	0.4	33	13.0	9	7	0	8	22	8.5	
ERIE	223	990.9	1018.2	9.7	3.3	6.5	2.0	22.2	3	-6.1	27	0	11	2.2	77	159	65	25	17	3	333	127	2.9	20	13.4	30	26	0	1	29	9.5	
HARRISBURG	103	1007.5	1020.5	10.7	4.9	7.8	1.3	22.8	4	-2.8	27+	0	8			142	61	31	18	1	38	25	0.4	27	18.8	NW	26	0	7	23	8.5	21
PHILADELPHIA	2	1019.6	1020.5	11.7	4.2	8.0	0.1	25.6	4	-3.9	27+	0	9	3.9	77	197	111	101	17	2	5	T	0.9	36	15.6	NW	17	2	8	20	8.1	28
PITTSBURGH	347	974.3	1018.9	11.6	3.5	7.6	2.4	23.3	4	-9.4	27	0	12	2.2	73	66	3	19	20	1	84	51	0.8	21	13.9	29	25	0	4	26	9.1	20
SCRANTON	283	985.1	1020.1	9.3	3.0	6.2	1.3	22.8	4	-5.6	27+	0	11	2.2	78	101	25	25	15	1	221	76	0.4	25	13.9	E	7	1	3	26	9.0	18
WILLIAMSPORT	160	1000.7	1020.0	10.6	4.2	7.4	2.1	22.2	5	-3.9	14	0	9	2.2	70	138	43	44	17	0	117	51	0.1	32	13.0	27	10	0	5	25	9.1	
RHODE ISLAND																																
BLOCK ISLAND	34			11.5	6.1	8.8	1.1	19.4	4	-1.7	27	0	4			56	-54	16	16		T	0										

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1018.3	1020.5	11.8	3.6	7.7	1.4	21.1	4	-3.9	27	0	11	2.8	72	82	-33	47	14	2	33	25	1.0	30	14.8	26	27	6	6	18	7.2	38
SOUTH CAROLINA																																
CHARLESTON	12	1017.6	1019.5	22.3	10.2	16.3	2.8	28.3	5	-2.8	27+	0	5	10.6	75	45	-9	22	7	0	0	0	0.4	5	10.3	28	26	9	7	14	6.1	63
CHARLESTON J	3			20.3	12.3	16.3	1.5	25.6	8+	2.2	27+	0	0			73	23	26	10		0	0										
COLUMBIA	65	1010.8	1019.1	20.1	7.0	13.6	1.4	26.7	6+	-5.6	27+	0	8	7.2	73	53	-6	23	8	3	0	0	0.3	2	10.3	33	26+	8	10	12	6.2	69
GRNVLLE-SPRTNBRG	292	984.1	1019.0	17.1	8.2	12.7	2.1	24.4	6	-3.9	27	0	5	6.1	70	113	34	58	13	3	0	0	0.6	2	13.9	SW	10	11	4	15	6.2	44
SOUTH DAKOTA																																
ABERDEEN	395	967.8	1016.3	2.4	-7.8	-2.7	-1.8	16.1	2	-26.1	26	0	27	-6.7	74	60	44	33	9	0	513	203	1.0	29	16.5	34	8	9	7	14	6.3	
HURON	390	967.8	1015.7	4.8	-5.6	-0.4	-0.6	16.7	7+	-26.1	25	0	26	-4.4	74	41	24	33	8	0	198	102	0.8	26	20.1	NW	20	10	9	11	5.7	49
RAPID CITY	964	903.5	1016.8	6.5	-5.1	0.7	-1.2	21.1	2	-21.7	21	0	25	-6.1	64	21	9	18	5	0	269	254	2.9	33	27.3	NW	26	6	12	12	6.3	52
SIOUX FALLS	432	963.4	1016.4	4.4	-5.2	-0.4	-1.0	16.1	5	-22.2	25	0	25	-3.9	77	46	24	31	8	1	218	152	1.1	26	20.6	35	9+	9	4	17	6.5	
TENNESSEE																																
BRISTOL	459	964.1	1018.9	15.3	4.6	9.9	2.3	25.0	4	-9.4	27	0	10	3.9	71	125	54	58	17	3	41	25	0.3	28	10.3	31	17	6	2	22	7.4	
CHATTANOOGA	203	993.6	1018.5	16.2	7.1	11.7	2.3	23.3	1	-4.4	26	0	6	7.2	77	220	120	47	14	3	T	T	0.4	30	9.4	19	9	8	2	20	7.1	35
KNOXVILLE	299	983.1	1018.4	16.2	6.7	11.4	1.9	23.3	2	-4.4	27+	0	5	6.1	74	129	38	40	18	2	T	T	0.9	32	11.2	24	10	7	2	21	7.2	61
MEMPHIS	79	1007.5	1017.6	17.4	8.2	12.8	2.3	26.1	8	-4.4	26	0	2	5.6	66	153	53	40	14	3	0	0	0.2	6	11.6	29	10	6	4	20	7.2	39
NASHVILLE	180	996.3	1018.2	15.2	5.7	10.4	1.3	23.9	1	-8.3	26	0	9	5.6	76	151	64	51	14	2	T	T	0.9	20	11.2	21	16	5	5	20	7.4	42
OAK RIDGE R	276			15.2	4.7	9.9	1.6	22.8	6+	-5.6	27+	0	9			232	129	50	17		T	T			14.8Y		10	7	6	17	6.8	
TEXAS																																
ABILENE	544	952.9	1015.9	19.6	5.6	12.6	0.3	28.3	20	-2.8	10	0	3	4.4	63	14	-16	14	3	0	0	0	1.0	21	15.6	NW	9+	14	7	9	4.4	70
AMARILLO	1098	891.0	1015.4	17.0	0.1	8.6	0.6	26.7	5	-8.3	21	0	16	-5.6	42	8	-5	4	3	0	33	25	1.0	23	15.6	36	8	13	7	10	4.8	78
AUSTIN	182	993.9	1016.0	22.5	10.4	16.5	1.4	28.9	16	1.7	10	0	0	9.4	68	43	-9	19	7	1	0	0	0.8	32	14.3	NW	9	12	6	12	5.2	55
BROWNSVILLE	6	1014.9	1015.5	27.1	14.9	21.0	0.9	31.7	21	6.1	12	0	0	15.6	75	103	69	39	6	3	0	0	0.9	15	15.2	SE	1	13	6	11	5.0	55
CORPUS CHRISTI	12	1013.9	1015.7	26.2	13.3	19.7	1.4	30.0	17+	2.2	10	0	0	15.6	80	44	3	22	6	2	0	0	1.0	12	13.0	36	21	12	7	11	5.1	58
DALLAS - FORT WORTH	168	994.9	1016.2	19.0	8.1	13.6	0.3	27.8	20	0.6	10	0	0	7.2	71	45	-6	19	6	1	0	0	0.6	29	12.5	19	26	6	7	17	6.6	
DEL RIO	313	979.3	1015.4	23.9	9.1	16.5	1.2	31.1	16	0.0	10	0	1	7.8	67	17	1	17	2	2	0	0	0.9	6	13.0	34	9	16	8	6	3.6	
EL PASO	1194	882.8	1015.1	20.6	3.5	12.1	1.2	26.1	6+	-1.1	11+	0	5	-3.3	38	1	-7	1	2	0	0	0	0.8	26	14.3	25	8	18	10	2	3.2	89
GALVESTON	2			21.4	15.4	18.4	0.9	25.6	1	8.3	30	0	0			242	161	114	10		0	0			15.2	NW	2					44
HOUSTON INTERCON	29	1012.9	1016.5	22.7	10.4	16.6	0.4	28.9	20	-1.1	10	0	2	12.8	83	131	29	39	8	5	0	0	0.3	6	13.4	29	8	7	7	16	6.4	42
LUBBOCK	992	903.8	1015.3	19.8	2.7	11.3	1.9	27.2	26	-2.8	10	0	6	-3.3	41	1	-12	T	2	0	T	0	0.8	25	15.6	32	8	16	5	9	4.1	81
MIDLAND	869	916.4	1014.8	21.2	4.3	12.8	0.9	28.9	6	-1.1	30+	0	3	-1.7	42	1	-12	1	1	0	0	0	0.9	24	18.3	33	1	18	6	6	3.4	
PORT ARTHUR	5	1015.9		22.8	12.5	17.7	2.0	28.3	28+	1.1	10	0	0	13.3	79	275	167	151	8	4	0	0	0.5	8	17.4	NW	29	8	5	17	6.6	40
SAN ANGELO	580	948.9	1015.6	21.8	6.1	13.9	0.9	27.8	16+	-2.2	11+	0	3	4.4	58	17	-4	15	3	0	0	0	1.3	23	11.2	23	8+	16	7	7	3.9	
SAN ANTONIO	240	987.8	1015.9	22.9	9.7	16.3	0.9	27.8	16	-2.2	10	0	2	9.4	70	153	108	124	5	4	0	0	0.7	35	13.4	8	1	13	6	11	4.9	50
VICTORIA	32	1012.2	1016.3	24.4	12.2	18.3	1.3	29.4	16	1.7	10	0	0	12.8	76	92	34	41	7	4	0	0	0.4	36	18.3Y	NW	1	12	6	12	5.3	
WACO	153	998.0	1016.2	21.5	9.8	15.7	1.5	29.4	16	0.0	10	0	1	8.9	70	62	4	25	5	3	T	0	0.2	27	9.8	20	27+	8	8	14	6.3	
WICHITA FALLS	303	979.3	1016.3	19.3	4.3	11.8	0.2	28.9	20	-2.2	10	0	5	3.3	63	24	-11	21	5	2	T	T	0.4	27	13.9	31	2+	10	11	9	5.0	
UTAH																																
MILFORD	1533	847.6	1019.7	13.4	-5.9	3.8	0.8	22.2	3	-24.4	20	0	25			4	-13	3	2		41	51			17.9	SW	18	11	10	9	5.0	72
SALT LAKE CITY	1286	873.0	1018.6	11.9	-0.3	5.8	1.9	20.0	5+	-15.0	20	0	13	-2.8	58	30	-3	19	12	0	216	203	0.6	18	14.3	S	22	5	8	17	7.2	47
VERMONT																																
BURLINGTON	101	1006.8	1019.5	8.1	0.8	4.4	1.7	21.1	3	-12.2	27	0	12	0.0	74	107	35	31	17	1	406	178	1.2	20	13.9	S	21	2	7	21	8.3	27
VIRGINIA																																
LYNCHBURG	279	985.8		14.3	5.2	9.8	1.4	23.3	4	-7.8	27	0	7			145	77	40	17		18	25	0.8	35	14.8	NW	17	5	7	18	7.1	31
NORFOLK	7	1019.0	1020.0	16.7	8.7	12.7	1.8	25.6	5+	-2.8	27	0	2	7.8	74	137	63	84	14	1	0	0	0.6	36	12.5	26	10	6	5	19	7.1	36
RICHMOND	50	1013.5	1019.9	16.2	6.3	11.3	1.8	25.6	5+	-8.3	27	0	7	6.7	78	110	28	42	14	1	T	0	0.4	1	17.0	NW	17	4	8	18	7.2	47
ROANOKE	350	977.3	1019.8	13.4	4.9	9.2	1.0	23.9	4	-8.3	27	0	8	4.4	77	164	101	39	18	2	61	51	0.9	32	13.9	30	10	4	7	19	7.7	
WALLOPS ISLAND	3			12.8	7.4	10.1	0.4	18.9	5+	-2.8	27+	0	5			89	12	61	11		T	0			18.8Y	NW	17+					
WASHINGTON																																
OLYMPIA	59	1010.5	1017.8	9.1	0.2	4.7	-1.6	14.4	25+	-11.7	21	0	14	1.7	82	236	34	51	24	0	97	102	2.7	20	13.4	18	14	3	6	21	8.0	
QUILLAYUTE	55	1008.8	1016.3	9.5	1.7	5.6	-1.1	15.6	11	-6.7	23	0	10	3.3	85	460	108	71	22	1	T	0	0.9	16	14.8	SW	1	2	4	24	8.5	18
SEATTLE U	6			9.8	4.0	6.9	-0.7	15.0	25+	-6.7	21	0	6			128	-8	27	20		8	T			21.0Y	S	1					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation ground	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover tenths sunrise to sunset	Possible sunshine
												No of days							No of days		Snow, Ice pellets				Fastest mile (1 6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8 10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	1000.7	1017.3	9.5	3.7	6.6	-0.4	15.6	1	-6.1	21	0	7	1.7	72	134	-15	38	19	1	89	25	2.4	17	17.4	SW	1	3	7	20	7.7	14
SPOKANE	718	932.3	1017.9	4.7	-2.4	1.1	-0.8	12.8	1	-15.0	21	0	19	-2.8	76	54	-2	17	12	0	284	127	2.1	20	17.9	SW	1	4	9	17	7.5	30
STAMPEDE PASS R	1206	877.8		0.0	-4.6	-2.3	-1.8	7.8	25+	-16.7	21+	0	29			529	213	80	26		2545	1092						2	1	27	8.9	
WALLA WALLA U	289			9.7	1.7	5.7	-0.2	21.7	10	-11.7	21	0	10			52	4	15	13		239	203			17.0	SW	1	2	9	19	7.9	29
YAKIMA	321	980.0		7.9	-3.6	2.2	-1.4	18.3	1	-14.4	21	0	24			18	-9	6	11	0	91	102	1.4	29	19.2	21	1	3	11	16	7.2	
WEST INDIES																																
SAN JUAN P.R.	4	1011.2	1013.6	29.8	23.9	26.8	0.9	31.7	2	22.8	7	0	0	21.7	75	316	177	106	22	11	0	0	1.6	11	12.5	S	22	1	18	11	6.9	40
WEST VIRGINIA																																
BECKLEY	763	928.9	1018.6	11.7	4.0	7.8	2.4	21.1	9+	-12.8	27	0	9	3.3	78	75	1	16	17	1	137	102	1.9	18	13.9	15	30	3	4	23	8.5	
CHARLESTON	286	984.4	1018.8	14.4	4.6	9.5	2.1	26.7	5+	-8.3	27	0	8	2.8	67	96	25	19	17	1	112	51	1.3	20	12.1	23	17	4	4	22	8.0	
ELKINS	594	947.5		12.3	1.7	7.0	2.2	23.9	4	-12.8	27	0	17			84	15	16	20		135	76						2	5	23	8.6	
HUNTINGTON	252	987.8	1018.4	14.7	5.6	10.1	2.6	27.8	5	-8.9	27	0	7	2.8	65	91	18	23	18	2	89	76	0.5	22	9.4	28	17	3	4	23	8.3	
PARKERSBURG U	187			13.2	4.2	8.7	1.5	26.1	2	-7.8	27	0	11			67	3	15	16		142	127			13.4	W	17					25
WISCONSIN																																
GREEN BAY	208	990.2	1016.5	5.1	-3.6	0.7	-0.4	16.7	9	-20.0	26	0	20	-2.2	78	69	21	21	15	2	358	279	1.2	26	16.1	SW	21	7	5	18	7.3	33
LA CROSSE	198	991.9	1017.0	5.0	-3.2	0.9	-1.0	17.2	3	-22.8	26	0	20	-2.8	77	36	-1		9	1	305		0.7	22								
MADISON	262	984.4	1016.7	5.6	-3.4	1.1	-0.4	17.8	3	-20.6	26	0	19	-1.7	82	54	6	29	13	2	264	178	1.2	25	16.1	SW	20	4	10	16	7.3	34
MILWAUKEE	205	990.9	1016.8	6.3	-0.7	2.8	0.3	19.4	2	-16.1	26	0	18	-0.6	79	65	14	23	15	1	409	279	1.8	26	16.5	SW	20	3	8	19	7.6	38
WYOMING																																
CASPER	1627	835.4	1016.2	7.2	-5.8	0.7	-0.3	21.1	4	-25.6	20	0	28	-7.2	57	20	3	13	6	0	462	356	4.1	24	16.3	22	22	5	14	11	6.0	
CHEYENNE	1867	809.0	1015.3	7.5	-4.8	1.3	-0.6	19.4	5	-17.2	20	0	25	-9.4	48	9	-6	4	6	1	109	51	4.6	29	24.1	W	26	6	11	13	6.1	53
LANDER	1696	827.3	1017.1	6.9	-7.0	0.0	0.3	19.4	4	-25.6	21+	0	29	-8.3	57	17	-6	10	4	0	325	178	1.0	25	17.9	W	22	7	14	9	5.7	60
SHERIDAN	1208	877.1	1017.7	6.8	-7.4	-0.3	-1.1	23.3	4	-27.2	21	0	28	-6.7	69	17	-7	6	9	1	231	102	2.3	30	22.8	NW	26	3	10	17	7.2	41

HEATING DEGREE DAYS

(Base 65°F.)

NOVEMBER 1977

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
BIRMINGHAM	292	468	534
HUNTSVILLE	367	587	611
MOBILE	149	222	250
MONTGOMERY	164	251	399
ALASKA			
ANCHORAGE	1486	2946	3262
ANNETTE	876	2155	2086
BARROW	2099	5786	6211
BARTER ISLAND	2060	5791	6037
BETHEL	1619	3719	3826
BETTLES	2205	4434	4774
BIG DELTA	2101	4060	4122
COLD BAY	1006	2930	3126
FAIRBANKS	2184	4198	4170
GULKANA	2105	4164	4213
HOMER	1311	3209	3285
JUNEAU	1062	2624	2788
KING SALMON	1524	3651	3464
KODIAK	1026	2938	2760
KOTZEBUE	1845	4101	4537
MC GRATH	2115	4053	4243
NOME	1619	3932	4253
ST. PAUL ISLAND	1043	3332	3556
TALKEETNA	1714	3546	3554
UNALAKLEET	1784	4108	4112
VALDEZ	1210	3032	3341
YAKUTAT	1121	2871	2970
ARIZONA			
FLAGSTAFF	715	1332	1792
PHOENIX	42	42	199
TUCSON	117	118	250
WINSLOW	593	805	925
YUMA	35	35	108
ARKANSAS			
FORT SMITH	377	519	573
LITTLE ROCK	370	475	589
CALIFORNIA			
BAKERSFIELD	162	174	331
BISHOP	455	688	884
BLUE CANYON	574	1171	1149
EUREKA U	408	1483	1498
FRESNO	302	348	435
LONG BEACH	35	39	210
LOS ANGELES	62	82	292
LOS ANGELES U	51	65	153
MT SHASTA R	762	1533	1367
OAKLAND	257	418	639
RED BLUFF	303	357	421
SACRAMENTO	309	394	466
SANDBERG R	393	655	763
SAN DIEGO	37	37	205
SAN FRANCISCO	284	629	671
SAN FRANCISCO U	187	732	841
SANTA MARIA	161	458	737
STOCKTON	284	327	451
COLORADO			
ALAMOSA	951	1888	2146
COLORADO SPRINGS	784	1294	1458
DENVER	737	1149	1296
GRAND JUNCTION	736	968	1140
PUEBLO	723	1104	1116
CONNECTICUT			
BRIDGEPORT	442	749	873
HARTFORD	610	1130	1213
DELAWARE			
WILMINGTON	550	935	865
DIST.OF COLUMBIA			
WASHINGTON DULLES	521	886	943
WASHINGTON NATIONAL	406	603	714
FLORIDA			
APPALACHICOLA U	122	178	180
DAYTONA BEACH	63	86	97
FORT MYERS	34	39	44
JACKSONVILLE	135	205	180
KEY WEST	0	0	0
LAKELAND U	48	58	72
MIAMI	6	8	13
ORLANDO	38	44	75
PENSACOLA	108	163	221
TALLAHASSEE	175	268	235
TAMPA	53	71	71
WEST PALM BEACH	18	18	22
GEORGIA			
ATHENS	299	487	540
ATLANTA	313	495	553
AUGUSTA	215	368	448
COLUMBUS	186	296	405
MACON	202	323	386
ROME	329	549	650
SAVANNAH	165	261	313
IDAHO			
BOISE	758	1305	1301
LEWISTON	761	1382	1285
POCATELLO	831	1506	1606
ILLINOIS			
CAIRO U	422	627	669
CHICAGO O HARE	741	1204	1249
CHICAGO MIDWAY	728	1186	1119
MOLINE	780	1255	1208
PEORIA	734	1197	1158
ROCKFORD	849	1445	1335
SPRINGFIELD	661	1024	1031
INDIANA			
EVANSVILLE	495	787	873
FORT WAYNE	694	1198	1209
INDIANAPOLIS	575	931	1069
SOUTH BEND	669	1190	1258
IOWA			
BURLINGTON	738	1174	1154
DES MOINES	769	1195	1273
DUBUQUE	924	1589	1467
SIOUX CITY	878	1370	1362
WATERLOO	923	1709	1493
KANSAS			
CONCORDIA	703	1017	1056
DODGE CITY	609	831	954
GOODLAND	776	1205	1290
TOPEKA	662	931	977
WICHITA	558	735	849
KENTUCKY			
COVINGTON	586	1011	951
LEXINGTON	498	781	898
LOUISVILLE	472	773	876
LOUISIANA			
BATON ROUGE	144	200	262
LAKE CHARLES	136	172	213
NEW ORLEANS	113	156	219
SHREVEPORT	260	332	348
MAINE			
CARIBOU	944	2158	2198
PORTLAND	761	1595	1567
MARYLAND			
BALTIMORE	476	763	844
MASSACHUSETTS			
BLUE HILL OBS R	640	1231	1178
BOSTON	498	891	979
WORCESTER	711	1429	1346
MICHIGAN			
ALPENA	902	1900	1902
DETROIT	628	1070	1150
DETROIT METRO	729	1356	1240
FLINT	701	1336	1431
GRAND RAPIDS	759	1410	1347
HOUGHTON LAKE	869	1842	1858
LANSING	757	1446	1389
MARQUETTE U	894	1818	1800
MUSKEGON	758	1446	1384
SAULT STE MARIE	910	2223	2061
MINNESOTA			
DULUTH	1101	2326	2198
INTERNATIONAL FALLS	1266	2579	2412
MINNEAPOLIS	1016	1744	1655
ROCHESTER	986	1733	1698
ST CLOUD	1103	1972	1872
MISSISSIPPI			
JACKSON	246	382	392
MERIDIAN	200	308	442
MISSOURI			
COLUMBIA REGIONAL	591	892	922
KANSAS CITY	673	987	919
ST JOSEPH	652	1000	1000
ST LOUIS	601	903	859
SPRINGFIELD	522	759	853
MONTANA			
BILLINGS	988	1718	1612
GLASGOW	1208	2255	1965
GREAT FALLS	1021	1984	1756
HAVRE	1124	2006	1942
HELENA	1008	2015	2004
KALISPELL	1081	2345	2285
MILES CITY	1091	1834	1728
MISSOULA	1001	2083	2040
NEBRASKA			
GRAND ISLAND	768	1196	1279
LINCOLN	793	1248	1192
NORFOLK	882	1355	1398
NORTH PLATTE	869	1459	1459
OMAHA	754	1144	1128
OMAHA (NORTH) WSFO	803	1241	1271
SCOTTSBLUFF	800	1302	1491
VALENTINE	914	1570	1554
NEVADA			
ELKO	773	1394	1802
ELY	850	1675	1869
LAS VEGAS	226	229	431
RENO	687	1255	1438
WINNEMUCCA	729	1406	1596
NEW HAMPSHIRE			
CONCORD	760	1628	1540
MT WASHINGTON OBS	1233	4181	4145
NEW JERSEY			
ATLANTIC CITY	457	798	867
ATLANTIC CITY U	477	755	720
NEWARK	527	896	841
TRENTON U	519	878	852
NEW MEXICO			
ALBUQUERQUE	551	744	840
CLAYTON	637	925	1078
ROSWELL	349	417	755
NEW YORK			
ALBANY	666	1351	1350
BINGHAMTON	736	1538	1493
BUFFALO	646	1274	1358
NEW YORK U	524	887	766
NEW YORK KENNEDY	530	949	844
NEW YORK LA GUARDIA	524	892	785
ROCHESTER	634	1277	1294
SYRACUSE	624	1263	1261
NORTH CAROLINA			
ASHEVILLE	466	811	880
CAPE HATTERAS R	196	299	353
CHARLOTTE	356	574	582
GREENSBORO	459	773	734
RALEIGH	411	698	648
WILMINGTON	231	375	369
NORTH DAKOTA			
BISMARCK	1153	2101	1952
FARGO	1178	2040	1930
WILLISTON	1212	2195	2036
OHIO			
AKRON	632	1183	1224
CINCINNATI ABBE OB	542	882	894
CLEVELAND	592	1060	1177
COLUMBUS	594	1042	1125
DAYTON U	605	1060	1073
MANSFIELD	643	1181	1111
TOLEDO	713	1297	1263
YOUNGSTOWN	652	1183	1274
OKLAHOMA			
OKLAHOMA CITY	420	535	634
TULSA	412	531	621
OREGON			
ASTORIA	606	1512	1448
BURNS U	903	1813	1749
EUGENE	637	1288	1159
MEDFORD	673	1156	1126
PENDLETON	792	1508	1208
PORTLAND	644	1173	1161
SALEM	606	1259	1176
SEXTON SUMMIT R	805	1811	1555
PENNSYLVANIA			
ALLENTOWN	623	1045	1116
ERIE	636	1283	1370
HARRISBURG	562	979	980
PHILADELPHIA	558	910	851
PITTSBURGH	583	1155	1204
PITTSBURGH U	547	957	989
SCRANTON	653	1328	1258
WILLIAMSPORT	588	1097	1184
RHODE ISLAND			
BLOCK ISLAND	508	896	970
PROVIDENCE	568	1045	1104
SOUTH CAROLINA			
CHARLESTON	175	287	345
CHARLESTON U	148	241	261
COLUMBIA	277	470	453
GRNVLLE_SPRTNBRG	322	508	574
SOUTH DAKOTA			
ABERDEEN	1128	1910	1803
HURON	1002	1664	1651
RAPID CITY	944	1650	1583
SIOUX FALLS	1000	1677	1615
TENNESSEE			
BRISTOL	455	833	865
CHATTANOOGA	359	597	674
KNOXVILLE	374	619	659
MEMPHIS	313	436	572
NASHVILLE	425	683	688
OAK RIDGE	448	810	773
TEXAS			
ABILENE	314	370	425
AMARILLO	522	673	787
AUSTIN	136	152	244
BROWNSVILLE	25	25	40
CORPUS CHRISTI	56	60	88
DALLAS FT WORTH	257	312	347
DEL RIO	126	132	218
EL PASO	328	384	494
GALVESTON	63	69	117
HOUSTON INTERCON	150	184	179
LUBBOCK	373	453	656
MIDLAND	295	342	437
PORT ARTHUR	112	128	219
SAN ANGELO	249	293	371
SAN ANTONIO	138	157	211
VICTORIA	86	94	138
WACO	173	195	292
WICHITA FALLS	345	409	461
UTAH			
MILFORD	782	1307	1401
SALT LAKE CITY	670	1036	1289
VERMONT			
BURLINGTON	740	1588	1602
VIRGINIA			
LYNCHBURG	464	801	807
NORFOLK	321	479	552
RICHMOND	401	664	704
ROANOKE	496	864	816
WALLOPS ISLAND	436	702	658
WASHINGTON			
OLYMPIA	734	1734	1487
QUILLAYUTE	679	1830	1705
SEATTLE	609	1300	1183
SEATTLE_TACOMA	625	1270	1341
SPOKANE	921	1886	1682
STAMPEDE PASS R	1105	2961	2727
WALLA WALLA U	677	1191	1088
YAKIMA	862	1626	1464
WEST VIRGINIA			
BECKLEY	564	1129	1222
CHARLESTON	482	860	901
ELKINS	608	1209	1344
HUNTINGTON	455	822	896
PARKERSBURG U	518	881	914
WISCONSIN			
GREEN BAY	942	1715	1684
LA CROSSE	936	1587	1466
MADISON	925	1720	1609
MILWAUKEE	827	1473	1486
WYOMING			
CASPER	945	1655	1728
CHEYENNE	910	1666	1693
LANDER	986	1741	1817
SHERIDAN	1001	1847	1785

COOLING DEGREE DAYS

(Base 65°F.)

NOVEMBER 1977

State and station	Current season		Normals January through this month
	This month	Period January through this month	
ALABAMA			
BIRMINGHAM	0	2271	1928
HUNTSVILLE	4	1995	1808
MOBILE	31	2839	2567
MONTGOMERY	29	2623	2238
ALASKA			
ANCHORAGE	0	11	0
ANNETTE	0	60	14
BARROW	0	0	0
BARTER ISLAND	0	0	0
BETHEL	0	8	0
BETTLES	0	90	17
BIG DELTA	0	65	34
COLD BAY	0	0	0
FAIRBANKS	0	98	52
GULKANA	0	5	[illegible]
HOMER	0	0	0
JUNEAU	0	1	0
KING SALMON	0	0	0
KODIAK	0	0	0
KOTZEBUE	0	19	0
MC GRATH	0	36	14
NOME	0	21	0
ST. PAUL ISLAND	0	[illegible]	0
TALKEETNA	0	8	6
UNALAKLEET	0	22	0
VALDEZ	0	0	0
YAKUTAT	0	0	0
ARIZONA			
FLAGSTAFF	0	191	140
PHOENIX	73	4520	3508
TUCSON	23	3099	2814
WINSLOW	0	1288	1203
YUMA	83	4184	4189
ARKANSAS			
FORT SMITH	3	2262	2022
LITTLE ROCK	14	2266	1925
CALIFORNIA			
BAKERSFIELD	4	2741	2179
BISHOP	0	1176	1037
BLUE CANYON	0	475	302
EUREKA U	0	0	0
FRESNO	0	1968	1671
LONG BEACH	83	1299	985
LOS ANGELES	62	597	615
LOS ANGELES U	96	1306	1185
MT SHASTA R	0	373	286
OAKLAND	0	163	128
RED BLUFF	0	2068	1904
SACRAMENTO	0	1014	1159
SANDBERG R	0	856	800
SAN DIEGO	40	913	722
SAN FRANCISCO	0	88	108
SAN FRANCISCO U	0	52	39
SANTA MARIA	15	103	84
STOCKTON	0	1677	1259
COLORADO			
ALAMOSA	0	65	88
COLORADO SPRINGS	0	498	461
DENVER	0	799	625
GRAND JUNCTION	0	1592	1140
PUEBLO	0	1145	981
CONNECTICUT			
BRIDGEPORT	0	781	735
HARTFORD	0	905	584
DELAWARE			
WILMINGTON	5	1120	992
DIST.OF COLUMBIA			
WASHINGTON DULLES	12	1171	940
WASHINGTON NATIONAL	15	1762	1415
FLORIDA			
APPALACHICOLA U	49	2542	2649
DAYTONA BEACH	131	3139	2874
FORT MYERS	196	3301	3605
JACKSONVILLE	68	2707	2577
KEY WEST	295	4367	4668
LAKELAND U	150	3377	3235
MIAMI	284	4011	3879
ORLANDO	185	3282	3164
PENSACOLA	50	2660	2683
TALLAHASSEE	46	2491	2553
TAMPA	139	3417	3302
WEST PALM BEACH	253	3696	3652
GEORGIA			
ATHENS	5	1972	1722
ATLANTA	1	1735	1589
AUGUSTA	27	2257	1995
COLUMBUS	20	2574	2143
MACON	18	2517	2294
ROME	3	2012	1615
SAVANNAH	58	2643	2311
HAWAII			
HILO	312	3597	2861
HONOLULU	417	4585	3951
KAHULUI	368	3887	3496
LIHUE	376	3904	3486
IDAHO			
BOISE	0	822	714
LEWISTON	0	1012	657
POCATELLO	0	519	437
ILLINOIS			
CAIRO U	5	2202	1806
CHICAGO O HARE	0	1108	664
CHICAGO MIDWAY	2	1218	925
MOLINE	0	1068	893
PEORIA	0	1110	968
ROCKFORD	0	847	714
SPRINGFIELD	1	1369	1116
INDIANA			
EVANSVILLE	16	1779	1364
FORT WAYNE	0	1028	748
INDIANAPOLIS	6	1363	974
SOUTH BEND	2	994	695
IOWA			
BURLINGTON	0	1129	994
DES MOINES	[illegible]	1342	928
DUBUQUE	0	685	606
SIOUX CITY	0	862	932
WATERLOO	0	673	675
KANSAS			
CONCORDIA	0	1376	1302
DODGE CITY	0	1854	1411
GOODLAND	0	887	925
TOPEKA	0	1563	1361
WICHITA	0	1841	1673
KENTUCKY			
COVINGTON	5	1234	1080
LEXINGTON	23	1532	1197
LOUISVILLE	20	1717	1268
LOUISIANA			
BATON ROUGE	42	2760	2579
LAKE CHARLES	48	2737	2732
NEW ORLEANS	56	2946	2695
SHREVEPORT	12	2445	2538
MAINE			
CARIBOU	[illegible]	723	128
PORTLAND	0	308	252
MARYLAND			
BALTIMORE	10	1474	1108
MASSACHUSETTS			
BLUE HILL OBS R	0	583	457
BOSTON	0	897	661
WORCESTER	0	425	387
MICHIGAN			
ALPENA	0	257	208
DETROIT	0	1053	743
DETROIT METRO	0	873	654
FLINT	0	656	438
GRAND RAPIDS	0	714	575
HOUGHTON LAKE	[illegible]	354	250
LANSING	0	719	535
MARQUETTE U	0	229	216
MUSKEGON	0	520	469
SAULT STE MARIE	0	86	139
MINNESOTA			
DULUTH	0	122	176
INTERNATIONAL FALLS	0	187	176
MINNEAPOLIS	0	691	585
ROCHESTER	0	548	474
ST CLOUD	0	428	426
MISSISSIPPI			
JACKSON	16	2531	2316
MERIDIAN	24	2494	2231
MISSOURI			
COLUMBIA REGIONAL	0	1423	1269
KANSAS CITY	0	1403	1420
ST JOSEPH	0	1418	1334
ST LOUIS	0	1667	1475
SPRINGFIELD	0	1692	1382
MONTANA			
BILLINGS	0	545	498
GLASGOW	0	321	438
GREAT FALLS	0	293	339
HAVRE	0	371	395
HELENA	0	225	256
KALISPELL	0	129	117
MILES CITY	0	685	752
MISSOULA	0	295	188
NEBRASKA			
GRAND ISLAND	0	1105	1036
LINCOLN	0	1250	1148
NORFOLK	0	1034	925
NORTH PLATTE	0	720	802
OMAHA	0	1362	1173
OMAHA (NORTH) WSFO	0	1095	949
SCOTTSBLUFF	0	945	666
VALENTINE	0	732	736
NEVADA			
ELKO	0	636	342
ELY	0	198	207
LAS VEGAS	3	3332	2946
RENO	0	500	329
WINNEMUCCA	0	741	407
NEW HAMPSHIRE			
CONCORD	0	488	349
MT WASHINGTON OBS	0	0	0
NEW JERSEY			
ATLANTIC CITY	2	1018	864
ATLANTIC CITY U	0	1037	835
NEWARK	0	1208	1024
TRENTON U	3	1163	968
NEW MEXICO			
ALBUQUERQUE	0	1335	1316
CLAYTON	0	988	767
ROSWELL	0	2428	1560
NEW YORK			
ALBANY	0	574	574
BINGHAMTON	0	434	369
BUFFALO	1	574	437
NEW YORK U	0	1263	1068
NEW YORK KENNEDY	0	886	861
NEW YORK LA GUARDIA	0	1097	1048
ROCHESTER	1	662	531
SYRACUSE	0	520	551
NORTH CAROLINA			
ASHEVILLE	1	1007	872
CAPE HATTERAS R	37	1952	1550
CHARLOTTE	20	1913	1596
GREENSBORO	10	1636	1341
RALEIGH	19	1701	1394
WILMINGTON	53	2307	1964
NORTH DAKOTA			
BISMARCK	0	367	487
FARGO	0	487	473
WILLISTON	0	410	422
OHIO			
AKRON	0	892	634
CINCINNATI ABBE OB	8	1422	1188
CLEVELAND	9	703	613
COLUMBUS	7	1073	809
DAYTON U	3	1199	936
MANSFIELD	1	760	818
TOLEDO	0	784	685
YOUNGSTOWN	4	708	518
OKLAHOMA			
OKLAHOMA CITY	2	2163	1876
TULSA	0	2334	1949
OREGON			
ASTORIA	0	18	13
BURNS U	0	451	289
EUGENE	0	251	239
MEDFORD	0	837	562
PENDLETON	0	725	656
PORTLAND	0	375	300
SALEM	0	261	232
SEXTON SUMMIT R	0	291	137
PACIFIC AREA			
GUAM TAGUAC R	435	4660	4592
JOHNSTON	443	4826	4695
KOROR R	550	5769	5503
KWAJALEIN	537	5822	5649
MAJURO	492	5443	5405
PAGO PAGO	480	5206	4860
PONAPE R	490	5588	5168
TRUK MOEN ISLAND	491	5679	5383
WAKE	457	5052	5033
YAP R	493	5398	5420
PENNSYLVANIA			
ALLENTOWN	5	986	772
ERIE	1	450	373
HARRISBURG	3	1053	1025
PHILADELPHIA	6	1237	1104
PITTSBURGH	4	623	647
SCRANTON	2	565	608
WILLIAMSPORT	5	862	698
RHODE ISLAND			
BLOCK ISLAND	0	491	359
PROVIDENCE	0	821	532
SOUTH CAROLINA			
CHARLESTON	71	2583	2078
CHARLESTON U	46	2795	2347
COLUMBIA	25	2180	2087
GRNVLLE-SPRTNBRG	20	1958	1573
SOUTH DAKOTA			
ABERDEEN	0	580	566
HURON	0	795	711
RAPID CITY	0	574	661
SIOUX FALLS	0	854	719
TENNESSEE			
BRISTOL	8	1217	1107
CHATTANOOGA	3	2095	1636
KNOXVILLE	10	1811	1569
MEMPHIS	20	2681	2029
NASHVILLE	4	2008	1694
OAK RIDGE	4	1256	1367
TEXAS			
ABILENE	7	2629	2466
AMARILLO	0	1700	1433
AUSTIN	40	3134	2903
BROWNSVILLE	177	3935	3797
CORPUS CHRISTI	136	3704	3437
DALLAS FT WORTH	6	3015	2587
DEL RIO	34	3353	3363
EL PASO	0	2240	2098
GALVESTON	75	2959	2987
HOUSTON INTERCON	58	2728	2878
LUBBOCK	0	2027	1647
MIDLAND	1	2764	2250
PORT ARTHUR	82	3260	2790
SAN ANGELO	17	2974	2702
SAN ANTONIO	38	2985	2987
VICTORIA	89	3246	3125
WACO	34	3439	2863
WICHITA FALLS	3	2644	2611
UTAH			
MILFORD	0	722	688
SALT LAKE CITY	0	1108	927
VERMONT			
BURLINGTON	0	507	396
VIRGINIA			
LYNCHBURG	8	1313	1100
NORFOLK	22	1930	1441
RICHMOND	27	1814	1353
ROANOKE	7	1464	1030
WALLOPS ISLAND	0	1316	1107
WASHINGTON			
OLYMPIA	0	109	101
QUILLAYUTE	0	17	[illegible]
SEATTLE	0	175	183
SEATTLE-TACOMA	0	232	129
SPOKANE	0	472	388
STAMPEDE PASS R	0	101	16
WALLA WALLA U	0	977	862
YAKIMA	0	639	479
WEST INDIES			
SAN JUAN P.R.	469	5118	4616
WEST VIRGINIA			
BECKLEY	2	607	490
CHARLESTON	12	1227	1055
ELKINS	4	485	389
HUNTINGTON	19	1373	1098
PARKERSBURG U	8	1215	1045
WISCONSIN			
GREEN BAY	0	534	386
LA CROSSE	0	776	695
MADISON	0	622	460
MILWAUKEE	0	564	450
WYOMING			
CASPER	0	491	458
CHEYENNE	0	252	327
LANDER	0	410	383
SHERIDAN	0	316	446

STORM SUMMARY

NOVEMBER 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
Alabama	1	1			5											4													
Alaska												5																	
Arizona *																													
Arkansas	2	2			4																								
California											1	2																	
Colorado											13	6							10										
Connecticut												4				4													
Delaware												3																	
Florida *																													
Georgia	1	1			2																					39	45	6	5
Hawaii *																													
Idaho												4																	
Illinois *																													
Indiana																		1		2									
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana	8	6		6	6							5			1	4													
Maine *																													
Maryland & DC												3																	
Massachusetts												4			2	4													
Michigan												5																	
Minnesota *																													
Mississippi								2	2			5	2			2	2											6	2
Missouri	2	2			4						1	5	4															6	5
Montana *																													
Nebraska																		1		5									
Nevada													4																
New Hampshire *																													
New Jersey											2	2																8	
New Mexico *																													
New York												4	C			5				4								7	C
North Carolina	2	2			4																					11	70	7	7
North Dakota *																													
Ohio												4																	
Oklahoma *																													
Oregon										1		2							2	2			2	5		3	2	6	
Pacific																											18	5	C
Pennsylvania								3			2	5								3								4	
Puerto Rico																										1		6	C
Rhode Island												4																	
South Carolina																												5	
South Dakota																			1	4	5								
Tennessee	2	1		2	4																					1		7	
Texas	6	2			5			2	2		4	4	2		1	3	2											3	2
Utah *																													
Vermont												3				4													
Virginia												4																7	5
Virgin Islands *																													
Washington										2	2	5																	
West Virginia *																													
Wisconsin												2	2			2													
Wyoming																		1		5									

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1977

Herbert J. Thompson, Office of Hydrology

A major storm system the first week of November deposited heavy amounts of rainfall over several areas of the eastern part of the United States and was responsible for the serious flooding during the month which reached record levels at some points. In New Jersey record stages were reported on the Ramapo and Saddle Rivers and losses were estimated at nearly $96 million. Serious flooding also occurred in southern New York. Minor to moderate flooding occurred on several streams in the South Atlantic Coast Drainage and widespread small stream and flash flooding occurred in northern Georgia, highlighted by the failure of a small dam near Toccoa, GA, which took 39 lives. Losses were estimated at $2.5 million. Major river and flash flooding also occurred in the mountainous area of western North Carolina and adjacent states with losses exceeding $53 million and 11 persons drowned.

Elsewhere, scattered minor to moderate flooding occurred on small streams in New England, on several rivers in the Gulf of Mexico Drainage and the lower Missouri River Basin, on the Illinois and Mississippi Rivers in Illinois and Missouri, the Neosho River in Kansas and the Big Black River in Mississippi. The drought ended on the Pacific Coast with some flooding on Oregon and Washington coastal streams. Extensive flooding was reported in Puerto Rico.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE		
Heavy rainfall on the 7th-8th caused widespread small stream flooding in southern New England, generally of a minor nature. Roads and basements were reported flooded in Greenfield, Leyden, and Bernardston in north central Massachusetts.	0	N.A.
In the Hudson River Drainage the storm of the 7th-8th deposited amounts of over 6 inches over the Catskills resulting in the second highest stage of record on Schoharie Creek at Middleburg, more than 4 feet over flood stage. Major flooding was also reported on Catskill and Esopus Creeks, from which no stage reports are received.	0	N.A.
In New Jersey record flooding developed from the storm of the 7th-8th, which deposited amounts of up to nearly 10 inches in 36 hours over the northern part of the state. On the Ramapo River the highest stage in 75 years of record (4.4 feet over flood stage) was reported at Mahwah and the highest stage in 55 years of record (7.4 feet over flood stage) was recorded on the Saddle River at Lodi. The old records were exceeded by a foot or more in each case. The U. S. Geological Survey also reported record flooding on several small streams with peak discharges exceeding those of a 100-year recurrence interval flood. The Pompton and Millstone Rivers both crested more than 3 feet over flood stage and the Raritan River crested more than 2 feet over flood stage at Bound Brook. Minor flooding occurred along the Passaic, Cooper, and Rahway Rivers and Rancocas Creek. In Pennsylvania about 2 feet of flooding was reported on Chester Creek. About 21,700 homes were affected by flooding, of which 16,000 were in Bergen County which also sustained the greatest monetary loss - estimated at $62 million. Other counties affected were: Essex ($1,383,000); Hudson ($15,350,000); Passaic ($15.5 million); and Monmouth $1,650,000). These estimates were provided by the State Department of Defense.	0	95,883
In southern Virginia and North Carolina the early November storm produced rainfall of 3 to 6 inches over the headwaters of most streams with some flooding resulting. The Meherrin River crested nearly 7 feet over flood stage at Emporia, VA, and the South Fork	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
Catawba 4 to 5 feet over flood stage at McAdenville, NC with losses estimated at $5,000. About 5 feet of flooding occurred on the Yadkin River at Elkin, NC. Minor flooding was reported in the Neuse, Tar, Roanoke, and Nottaway Rivers and on Fishing Creek.		
In South Carolina rainfall on the 5th-6th amounted to as much as 6 to 7 inches over some headwater areas. The Broad River crested more than 7 feet over flood stage at Blair with losses estimated at $10,000. The Congaree River crested 5 feet over flood stage near St. Matthews with losses of $4,000. The Wateree Reservoir reached 3 feet over flood level. Minor flooding occurred on the Reedy and lower Pee Dee Rivers. Savings realized from flood warnings totaled $150,000 in South Carolina during November.	1	19
Extensive small stream and flash flooding occurred in north-Georgia early in November. Rainfall amounts over the area during the period of the 2d-6th ranged from 5 to 7 inches, with heaviest amounts the night of the 5th. The flooding was highlighted by the failure of the rain-weakened Kelly-Barnes Dam near Toccoa, GA. In about two minutes after the dam broke the campus of the Toccoa Falls Bible College was inundated, drowning 39 persons, injuring 45, and causing $1,450,000 in Property damage. Additional damage in Stephens County amounted to $629,000. The Broad River crested 12 feet over flood stage at Carlton Bridge, and minor flooding occurred on the Oconee and Middle Oconee Rivers, and developed later in the month on the lower Savannah. Other losses by county were: Rubun, $20,000; Banks, $25,000; Jackson, $55,000: Madison, $230,000; Clarke, $10,000; and Oglethorpe, $100,000.	39	2,519
EAST GULF OF MEXICO DRAINAGE		
The early November storm discussed above caused small stream and flash flooding in the headwater area of northeastern Georgia. The Etowah River crested 5 feet over flood stage at Canton, GA, and minor flooding occurred on the Chattahoochee River at Whiteburg, GA, and downstream on the Appalachicola River at Blountstown, FL. Losses were estimated at $50,000 in Habersham County and $5,000 in Hall County.	0	55
Two periods of heavy rainfall with amounts up to 5 inches occurred on the 21st and the 30th in Mississippi with minor flooding on the East Fork Tombigbee River and Tibbee Creek. Several feet of flooding occurred on the lower Pearl River with crests in December.	0	N.A.
UPPER MISSISSIPPI RIVER BASIN		
Only minor flooding occurred in the basin along the Illinois River from Havana to Beardstwon, IL, and along the Mississippi River from Louisiana, MO, to Clarksville, MO.	0	N.A.
MISSOURI RIVER BASIN		
No serious flooding in the upper Missouri Basin. Extreme cold on the 20th-25th followed by warm temperatures on the 26th-29th	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
MISSOURI RIVER BASIN-Cont'd		
caused minor flooding from ice jams of agricultural land along the yellowstone and Missouri Rivers in Montana.		
In the lower Missouri Basin flooding continued from October on some northwest Missouri streams. Crests to over 5 feet above flood stage occurred on the 102 River and up to 8 feet of flooding on the Platte and Grand Rivers. Rains of up to 2.5 inches on the 8th-9th over eastern Kansas caused Stranger Creek to reach 6 feet over flood stage at Easton, KS, minor flooding on the Black Vermillion and Delaware Rivers and Pottowattomie Creek, and 2 to 5 feet of flooding along the Marais des Cygnes River. The Nishnabotna River crested nearly 4 feet over flood stage on the 10th at Hamburg, IA. Minor flooding occurred on the lower Missouri River early in the month.	0	N.A.
OHIO RIVER BASIN		
Major river and flash flooding occurred in headwater areas of the Kanawha, Big Sandy, Cumberland, Kentucky, and Tennessee Rivers in western North Carolina and Virginia, southern West Virginia, southeastern Kentucky, and eastern Tennessee on the 6th-7th. Rainfall during the period of the 4th-7th was the heaviest in western North Carolina, with Boone reporting 13 inches for the period and a 24-hour total of 7.86 inches, a new record. Most of the headwater area in North Carolina received at least 6 inches from the storm while areas in adjacent states had somewhat smaller amounts. The New River crested nearly 11 feet over flood stage at Radford, VA, the Nolichucky River 9.5 feet over flood stage at Embreeville, TN, and 8 to 9 feet of flooding occurred on the lower French Broad River in North Carolina and Tennessee. From 2 to 4 feet of flooding was reported on the South Fork Kentucky River, the upper Cumberland River, and the Swannanoa River. Flooding on the Doe and Nolichucky Rivers was of major proportions with the crest on the Nolichucky at the Nolichucky Dam the highest since the dam was built in 1913. South Chickamauga Creek reached 5 feet over flood stage near Chattanooga, TN. The most severe damage was in North Carolina with losses estimated at $52 million. This included: 3,600 people left homeless; 9,000 people out of work; 101 bridges destroyed; and 289 miles of secondary roads and 100 miles of primary roads severely damaged. Sixteen counties were declared disaster areas. Other losses reported include $500,000 along the Tug Fork and upper New Rivers, $1 million in southeastern Kentucky and $100,000 in Grayson County, VA.	11	53,600
WHITE - RED - ARKANSAS RIVER BASINS		
The only flooding of significance occurred along the Neosho River from rains of up to 2 inches the nights of the 1st and the 8th which resulted in overflows up to 4 feet along portions of the Neosho. Two periods of minor flooding were reported on the Cache River at Patterson, AR.	0	N.A.
LOWER MISSISSIPPI DRAINAGE		
Heavy rains of 4 to 5 inches in 12 hours over the north central position of Mississippi caused flooding in the area. A secondary highway bridge over the Yalobusha River collapsed. The Big	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

NOVEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
LOWER MISSISSIPPI DRAINAGE-Cont'd		
Black River crested 3.5 feet over flood stage downstream at West. Amounts of 3 to 5 inches on the 30th caused flooding on the Big Black River and the Amite and Comite Rivers in Louisiana which continued into December.		
WEST GULF OF MEXICO DRAINAGE		
Heavy rainfall of 8 to 11 inches over the Pine Island Bayou drainage on the 20th-21st caused a crest 4 feet over flood stage at Sour Lake, TX. Amounts of 3.5 to 5 inches over the lower Guadalupe drainage on the 1st-2d caused minor flooding at Dupont, TX. Rainfall of up to 10 inches in Louisiana on the 29th-30th caused flooding in the Calcasieu Basin and several other streams with crests in early December.	0	N.A.
PACIFIC SLOPE DRAINAGE		
The extended drought was broken along the north California coast with strong rises on the Napa and Russian Rivers. The Smith River exceeded warning stage on several days late in the month but no flooding occurred in November.		
Some flooding was reported on Oregon and Washington coastal streams and on tributaries of the Willamette River in Oregon. The South Fork Coquille River crested about 4 feet over flood stage on the 24th and 3 feet over flood stage on the 26th at Myrtle Point, OR. The Snohomish River crested 3 feet over flood stage at Snohomish, WA on the 26th. No stage reports have been received.	0	N.A.
PUERTO RICO - VIRGIN ISLANDS		
A cold frontal system which had moved off the eastern coast of the mainland U.S. became stationary over the northern portions of the Greater Antilles and particularly over the north eastern portion of Puerto Rico during the period of the 22d-25th. During this period rainfall was sporadic with long periods of light to moderate rains interspersed with high intensity showers and thundershowers. Serious flooding occurred on the 24th, when very heavy rains fell on saturated watersheds with intensities of about one inch per hour over a three to four hour period. Heavy urban drainage flooding occurred in the San Juan Metropolitan area combined with flooding in low lying sectors of the Margarita Creek and Rio Piedras. By late afternoon on the 24th it became necessary to open the flood gates of the Carraizo Dam, as heavy rains in the Rio Grande de Loiza watershed brought the reservoir up to critical levels. Flooding occurred in the lower flood plain of the Rio Grande de Loiza and also for a brief time the following rivers were out of their banks in low areas: Espiritu Santo, Mameyes, Fajardo, Demajagua, and Naguabo. On the southeastern coast there was minor flooding on the Guayanes, Maunabo, and Patillas Rivers. In the eastern interior the Valenciano, Caguitas, Bairoa, Gurabo, and Caguas Rivers were in flood in low areas for a short time. The Caguitas and Bairoa Rivers had also flooded on the 15th when heavy local thundershowers in the upper watershed brought a surge of water into the lower urban sectors of Caguas. In general, rainfall over the eastern portion of Puerto Rico was well above normal for the	0	N.A.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PUERTO RICO - VIRGIN ISLANDS-Cont'd		
month with the highest total of 36.20 inches at the 3,800 feet station in the Luquillo Mountains (Pico del Este), of which 9.40 fell on the 24th. San Juan WSFO received 12.44 inches, nearly seven inches above normal.		

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

River and station	Flood stage	Above flood stages —dates		Crest	
		From	To—	Stage	Date
	Ft.			*Ft*	
ATLANTIC SLOPE DRAINAGE					
Schoharie Creek:					
Prattsville, NY	12	8	8	13.84	8
Middleburg, NY	14	8	9	18.25	9
Esperance, NY	15	9	9	19.1	9
Burtonsville, NY	6	8	9	8.39	9
Pompton:					
Pompton Plains, NJ	16	8	9	19.20	9
Ramapo:					
Pompton Lakes, NJ	2	8	10	4.04	9
Mahwah, NJ	8	8	10	12.36	8
Saddle:					
Lodi, NJ	5	U	U	12.36	8
Passaic:					
Chatham, NJ	6	7	8	6.41	8
Little Falls, NJ	7	8	11	8.63	9
Rahway at Springfield, NJ	5.5	U	U	U	U
Millstone:					
Blackwells Mills, NJ	7	8	10	10.60	8
Raritan:					
Manville, NJ	12	8	[illegible]	12.80	8
Bound Brook, NJ	26	8	9	28.41	8
Rancocas:					
Pemberton, NJ	2.5	8	10	2.80	9
Cooper:					
Haddonfield, NJ	2.8	8	8	3.20	8
Chester Creek:					
Chester, PA	8	7	8	9.99	8
Chemung:					
Chemung, NY	12	8 11	8 11	13.34 12.98	8 11
Nottoway:					
Stony Creek, VA	15	7	8	16.17	7
Meherrin:					
Emporia, VA	13	7	8	19.6	8
Roanoke:					
Roanoke, VA	10	7	8	11.76	7
Williamston, NC	10	11	16	10.2	15
Fishing Creek:					
Enfield, NC	14	9	10	14.5	10
Tar:					
Tarboro, NC	19	12	12	19.1	12
Neuse:					
Smithfield, NC	13	8	9	13.4	9
Goldsboro, NC	14	7	12	14.6	11
Yadkin:					
Wilkesboro	14	6	6	15.5	6
Elkin, NC	16	6	7	21.1	6
Pee Dee:					
Pee Dee, SC	19	Oct 29 11	1 13	19.6 19.4	Oct 30 12
Broad:					
Gaffney, SC	10	6	7	12.6	7
Blair, SC	14	7	9	21.4	8
Reedy:					
Greenville, SC	8	6	6	9.2	6
Congaree:					
St. Matthews 17 NW, SC	115	8	10	119.9	9

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
	Ft.			*Ft.*	
ATLANTIC SLOPE DRAINAGE-Continued					
South Fork Catawba:					
McAdenville, NC	10	6	9	#14.5	6
Wateree:					
Wateree Reservoir, SC	100	7	13	103.1	9
Camden, SC	23	9	10	24.5	9
Broad:					
Carlton Bridge, GA	15	5	7	27.25	6
Savannah:					
Clyo, GA	11	20	1/	12.0	Dec 15
Middle Oconee:					
Athens, GA	18	6	7	19.5	7
Oconee:					
Athens, GA	20	7	7	20.0	7
Milledgeville, GA	20	8	9	22.3	9
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee:					
Whitesburg, GA	18	5	7	18.9	6
Apalachicola:					
Blountstown, FL	15	7	12	16.21	10
Etowah:					
Canton, GA	17	6	7	22.2	6
East Fork Tombigbee:					
Fulton, MS	16	26 30	26 1/	16.5 18.1	25 Dec 1
Tibbee Creek:					
Tibbee, MS	23	30	1/	24.4	Dec 1
Strong:					
D'lo, MS	10	30	1/	#16.2	30
Pearl:					
Carthage, MS	17	27	1/	19.8	Dec 3
Jackson, MS	18	23	1/	30.5	Dec 5
Monticello, MS	19	30	1/	23.1	Dec 2-3
Bogalusa, LA	15	8 23	13 1/	#15.91 #17.32	10 26
Pearl River, LA	12	30	1/	#14.85	Dec 5
UPPER MISSISSIPPI BASIN					
Illinois River:					
Havana, IL	14	6	8	14.3	7
Beardstown, IL	14	6	10	14.6	8
Mississippi:					
Louisiana, MO	15	3	5	15.36	4
Clarksville, MO (Dam 24 TW)	25	3	5	25.7	4
MISSOURI RIVER BASIN					
Nishnabotna River:					
Hamburg, IA (Rural FS)	16	10	11	19.6	10
One Hundred and Two River:					
Maryville, MO	14	Oct 31	1	16.59	1
Rosendale, MO	13	1	1	18.65	1
Platte River:					
Agency, MO	20	Oct 31	5	25.28	1
Tracy, MO	18	1	9	26.1	4
Black Vermillion River:					
Frankfort, KS (Hway 9)	19	9	10	21.85	10
Delaware River:					
Muscotah, KS	27	9	10	28.3	9

FLOOD STAGE DATA

[All dates in November unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
	Ft			*Ft*	
MISSOURI RIVER BASIN-Continued					
Stranger Creek:					
Easton, KS	15	9	11	21.0	10
Tonganoxie, KS	21	9	12	23.2 [illegible]	9 11
Grand River:					
Gallatin, MO	21	1	1	22.6	1
Chillicothe, MO	24	1	3	29.9	2
Sumner, MO	26	1	6	33.85	3
Brunswick, MO	13	1 10	7 13	16.50 15.26	2 11
Pottawatomie Creek:					
Garnett, KS	26	8	9	27.5	9
Marais des Cygnes River:					
Reading, KS	14	9	10	19.15	9
Pomona 2 S, KS	20	9	10	22.1	9
Ottawa, KS	27	9	11	29.4	9
Osawatomie, KS	28	10	12	30.6	10
La Cygne, KS	25	11	13	27.32	12
Missouri River:					
Hermann, MO	21	2	4	23.24	3
St. Charles, MO	25	3	5	26.3	4
OHIO RIVER BASIN					
New:					
Galax, VA	12	U	U	18.21	6
Allisonia, VA	15	U	U	16.40	7
Radford, VA	14	U	U	24.70	7
Glen Lyn, VA	17	U	U	18.05	7
South Fork Kentucky:					
Oneida, KY	20	7	8	#21.5	7
Booneville, KY	20	7	8	23.6	7
Cumberland:					
Baxter, KY (Harlan WW.)	16	6	7	19.5	6
Pineville, KY	MSL1002	7	7	1002.2	7
Barbourville, KY	27	7	8	29.6	8
Doe:					
Elizabethton, TN	7.5	5	5	9.2	5
Nolichucky:					
Nolichucky Dam, TN	U	U	U	1256.5	6
Embreeville, TN	12	[illegible]	U	21.5	6
Swannanoa:					
Biltmore, NC	12	6	6	15.1	6
French Broad:					
Blantyre, NC	17	6	7	18.4	6
Asheville, NC	8	5	7	12.3	6
Marshall, NC	16	6	7	E19.0	6
Hot Springs, NC	13	5	6	22.35	6
Newport, TN	10	5	7	18.3	6
South Chickamauga Creek:					
Chickamauga, TN	10	5	8	14.9	7
WHITE BASIN					
Cache:					
Patterson, AR	8	9 26	11 1/	8.38 8.37	12 27
ARKANSAS RIVER BASIN					
Neosho:					
Iola, KS	20	[illegible]	10	[illegible]	[illegible]
ARKANSAS RIVER BASIN-Continued					
Neosho-Cont'd:					
Chanute, KS	23	9	10	#25.03	9
Oswego, KS	17	2 10	4 12	#20.8 19.45	4 11
Commerce, OK	15	2 11	4 11	#19.0 [illegible]	3 11
LOWER MISSISSIPPI DRAINAGE					
Big Black:					
West, MS	12	24	1/	15.5	25
Bovina, MS	28	30	1/	35.6	Dec 7
Comite:					
Comite, LA	18	30	1/	E21.0	Dec 1
Amite:					
Darlington, LA	18	30	1/	18.8	Dec 1
WEST GULF OF MEXICO DRAINAGE					
Bayou Nezpique:					
Basile, LA	22	30	1/	#25.6	Dec 3
West Fork Calcasieu:					
Sam Houston Park, LA	5	30	Dec 2	# 5.8	Dec 1
Calcasieu:					
Kinder, LA	16	30	1/	#18.74	Dec 2
Pine Island Bayou:					
Sour Lake, TX	25	21	1/	28.9	24
Guadalupe:					
Dupont, TX	20	4	7	22.4	5

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

ALBANY, NY 1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	86	3.8	1.4	25	1.0
1000	25	194	4.6	.8	22	1.0
950	30	583	2.9	-.3	24	3.2
900	30	1,020	1.3	-1.5	25	5.6
850	30	1,480	-.2	-4.5	26	6.6
800	30	1,965	-1.4	-8.1	25	8.0
750	30	2,478	-3.1	-11.4	25	9.9
700	30	3,022	-5.5	-15.1	25	11.5
650	30	3,601	-7.8	-19.5	25	13.4
600	30	4,220	-11.2	-22.3	25	15.5
550	30	4,883	-15.1	-25.6	25	17.8
500	30	5,597	-19.6	-31.7	25	20.2
450	30	6,373	-24.8	-34.7	26	22.9
400	30	7,221	-30.3	-40.6	25	24.2
350	30	8,161	-36.7	-44.7	25	22.7
300	30	9,210	-43.6	-51.4	25	24.7
250	30	10,417	-50.6		25	26.8
200	30	11,855	-55.2		26	23.9
175	30	12,705	-56.4		26	19.7
150	30	13,679	-58.5		26	18.8
125	30	14,821	-60.8		26	15.8
100	30	16,204	-61.8		26	11.1
80	29	17,589	-61.5		27	6.4
70	29	18,417	-61.4		28	4.8
60	26	19,373	-61.3		27	1.7
50	26	20,506	-60.7		03	.1
40	26	21,898	-59.7		07	2.5
30	25	23,702	-58.8		07	5.1
25	24	24,850	-57.8		06	5.6
20	23	26,273	-56.3		07	6.3
15	21	28,119	-54.3		06	7.5
10	16	30,763	-50.9		03	6.1

ALBUQUERQUE, NM 838 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,619	2.9	-5.2	01	.6
1000						
950						
900						
850						
800	30	2,002	6.0	-7.5	31	3.2
750	30	2,528	5.1	-9.7	30	6.1
700	30	3,084	.4	-12.6	30	8.1
650	30	3,676	-2.1	-16.9	30	10.7
600	30	4,308	-5.5	-20.6	30	13.0
550	30	4,985	-10.0	-24.8	30	14.8
500	30	5,713	-14.8	-28.6	30	16.7
450	29	6,501	-20.2	-34.2	30	18.6
400	29	7,363	-26.7	-40.0	30	18.7
350	28	8,322	-33.7	-45.0	30	19.6
300	27	9,382	-42.0	-51.8	30	22.3
250	27	10,593	-50.5		30	25.4
200	27	12,026	-56.5		30	26.9
175	27	12,870	-58.7		30	23.9
150	27	13,831	-62.1		29	21.7
125	27	14,948	-65.2		29	20.6
100	27	16,301	-67.1		29	16.3
80	25	17,642	-67.1		29	11.8
70	24	18,450	-65.6		29	6.7
60	24	19,388	-65.2		29	6.1
50	23	20,510	-61.7		27	5.1
40	23	21,898	-60.2		26	3.5
30	22	23,704	-58.1		27	4.2
25	21	24,857	-57.6		26	3.7
20	21	26,272	-55.9		26	3.4
15	20	28,115	-53.4		28	4.6
10	10	30,735	-49.9			

AMARILLO, TX 891 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,095	2.6	-6.3	26	1.6
1000						
950						
900						
850	30	1,478	8.2	-6.9	27	3.6
800	30	1,978	7.0	-10.3	28	4.6
750	30	2,506	4.7	-12.2	28	5.8
700	30	3,065	1.4	-15.2	28	7.0
650	30	3,658	-1.9	-18.6	28	8.8
600	30	4,290	-5.6	-22.2	28	10.4
550	30	4,966	-10.1	-25.7	28	11.9
500	30	5,693	-15.4	-29.5	28	13.3
450	30	6,480	-21.0	-34.7	28	15.1
400	30	7,339	-27.4	-39.8	28	16.3
350	30	8,289	-34.7	-44.9	28	17.7
300	30	9,345	-42.6	-52.5	28	20.4
250	30	10,554	-50.7		28	23.4
200	30	11,987	-56.7		28	26.6
175	30	12,830	-58.8		28	24.4
150	30	13,794	-60.9		28	22.7
125	30	14,919	-63.9		27	20.1
100	30	16,280	-65.6		27	14.7
80	29	17,635	-66.3		28	10.6
70	29	18,447	-65.2		27	8.1
60	28	19,390	-63.6		27	6.1
50	27	20,516	-62.4		26	4.1
40	27	21,902	-60.1		27	6.5
30	25	23,708	-58.2		25	4.3
25	24	24,858	-57.6		26	5.0
20	23	26,271	-56.2		28	3.8
15	20	28,121	-53.0		28	2.0
10	13	30,762	-49.1		29	3.5

■ ANCHORAGE, AK 1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	45	-9.2	-12.8	01	1.8
1000	14	167	-7.6	-12.8	02	2.9
950	30	456	-7.3	-12.6	36	3.7
900	30	878	-7.0	-13.4	36	2.0
850	30	1,323	-8.6	-15.0	06	.3
800	30	1,792	-10.5	-18.6	17	1.0
750	30	2,286	-13.3	-20.5	17	1.7
700	30	2,808	-16.7	-23.9	19	2.5
650	30	3,361	-20.5	-28.4	18	2.4
600	30	3,948	-24.5	-32.6	17	2.7
550	30	4,576	-28.8	-36.7	18	2.4
500	30	5,252	-33.4	-40.0	19	2.9
450	30	5,984	-38.7	-42.5	19	3.3
400	30	6,783	-44.4	-42.4	19	3.8
350	30	7,670	-49.5		21	4.0
300	30	8,669	-53.0		24	4.9
250	30	9,844	-53.5		24	5.6
200	30	11,284	-52.4		25	9.1
175	29	12,150	-52.1		25	8.5
150	29	13,151	-51.3		25	9.1
125	29	14,337	-51.0		25	9.7
100	28	15,793	-49.9		25	9.0
80	28	17,254	-49.8		25	9.5
70	28	18,128	-49.6		25	8.2
60	28	19,136	-50.3		26	7.0
50	28	20,326	-50.3		26	7.3
40	27	21,781	-50.3		26	5.7
30	26	23,658	-50.4		27	4.8
25	25	24,851	-50.1		26	4.5
20	23	26,310	-50.4		28	3.9
15	23	28,186	-50.8		25	5.2
10	8	30,778	-51.7			

■ ANNETTE, AK 1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	37	2.1	-1.2	11	1.6
1000	18	138	-.1	-6.2	02	1.5
950	30	483	-.6	-4.8	16	3.2
900	30	913	-3.5	-7.7	17	4.9
850	30	1,362	-6.4	-11.3	19	6.1
800	30	1,834	-8.9	-14.2	20	6.8
750	30	2,332	-11.8	-17.9	22	6.2
700	30	2,857	-14.8	-21.1	24	6.5
650	30	3,415	-18.1	-24.8	24	7.1
600	30	4,008	-22.1	-29.4	25	8.3
550	30	4,643	-26.3	-34.2	25	8.8
500	30	5,325	-31.1	-38.8	26	10.0
450	30	6,065	-36.2	-43.2	26	12.2
400	30	6,873	-41.6	-46.5	26	15.2
350	29	7,773	-46.7		26	16.5
300	29	8,781	-51.1		27	16.8
250	29	9,961	-52.2		28	18.3
200	28	11,409	-50.7		27	21.5
175	27	12,278	-50.7		27	20.7
150	27	13,280	-51.5		27	20.8
125	26	14,462	-52.2		27	16.5
100	26	15,907	-52.3		27	13.1
80	26	17,346	-53.1		27	12.5
70	26	18,208	-52.8		27	10.4
60	25	19,203	-54.2		27	7.7
50	25	20,371	-54.4		27	6.3
40	25	21,802	-54.4		28	3.8
30	25	23,650	-53.0		34	.9
25	24	24,828	-52.8		05	2.1
20	22	26,275	-52.5		07	4.0
15	21	28,145	-52.0		09	5.4
10	13	30,778	-52.0			

ATHENS, GA 989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	246	9.5	7.3	03	.8
1000						
950	30	581	10.7	4.8	19	1.0
900	30	1,031	9.5	2.7	23	4.0
850	30	1,505	7.8	.5	24	5.2
800	30	2,004	6.2	-2.5	25	6.4
750	30	2,531	3.7	-5.3	25	7.4
700	30	3,088	1.0	-10.6	25	9.7
650	30	3,681	-2.1	-14.1	25	11.0
600	30	4,313	-5.3	-17.8	25	12.3
550	30	4,992	-9.2	-23.2	25	14.1
500	30	5,722	-14.0	-28.5	25	16.1
450	30	6,513	-19.5	-33.0	25	18.3
400	30	7,378	-25.8	-38.8	25	20.2
350	30	8,334	-33.0	-45.1	25	22.8
300	30	9,398	-40.8	-48.0	25	24.8
250	30	10,615	-49.4		25	28.7
200	30	12,053	-56.5		25	29.8
175	30	12,895	-59.2		25	30.5
150	30	13,855	-62.0		25	27.8
125	30	14,974	-65.1		25	23.9
100	29	16,321	-67.7		26	18.0
80	29	17,663	-67.8		26	13.0
70	29	18,472	-65.7		26	10.5
60	29	19,412	-64.2		27	8.7
50	29	20,535	-62.0		27	8.1
40	29	21,922	-60.3		27	5.9
30	29	23,723	-58.7		27	6.4
25	29	24,873	-57.2		28	6.6
20	29	26,291	-55.7		28	6.3
15	29	28,134	-53.5		27	6.6
10	25	30,760	-49.5		28	9.0
7	8	33,131	-46.6			

■ BARROW, AK 1021 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	26	8	-21.1	-22.9	03	2.7
1000	26	166	-19.6	-21.4	05	3.6
950	26	549	-16.8	-19.9	05	3.9
900	26	956	-16.4	-20.0	03	4.2
850	26	1,386	-16.3	-22.6	03	4.6
800	26	1,842	-17.1	-23.2	03	4.1
750	26	2,324	-19.0	-25.0	02	3.2
700	25	2,839	-21.8	-28.1	01	3.2
650	25	3,382	-24.7	-31.3	35	3.8
600	25	3,960	-28.2	-34.7	35	3.8
550	25	4,579	-32.4	-37.6	34	4.3
500	25	5,244	-37.2	-39.3	33	4.8
450	25	5,965	-41.9	-42.4	34	4.9
400	25	6,754	-47.4		33	5.8
350	24	7,628	-52.7		31	6.4
300	23	8,617	-57.0		31	7.5
250	23	9,769	-57.1		29	7.0
200	23	11,187	-55.5		27	7.6
175	22	12,024	-53.9		27	7.0
150	20	12,986	-52.7		27	6.8
125	19	14,145	-51.7		26	7.9
100	15	15,566	-51.5		25	11.6
80	13	17,028	-51.7		25	12.7
70	12	17,900	-51.7		25	13.8
60	11	18,908	-51.3		25	16.6
50	11	20,094	-50.6		25	18.9
40	7	21,523	-50.2			

BARTER ISLAND, AK 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	24	15	-19.0	-22.6	26	6.1
1000	24	145	-17.3	-21.7	26	4.0
950	24	530	-16.5	-20.3	28	3.8
900	24	937	-16.1	-20.5	29	2.6
850	24	1,368	-16.3	-21.6	29	2.4
800	24	1,823	-17.4	-22.8	32	3.1
750	24	2,305	-19.2	-24.6	32	3.8
700	24	2,816	-22.0	-27.5	33	4.4
650	24	3,358	-25.1	-30.5	33	4.2
600	23	3,944	-28.3	-33.7	34	5.1
550	23	4,563	-32.1	-37.2	34	5.3
500	23	5,230	-36.4	-41.2	34	6.1
450	23	5,953	-41.3	-37.2	34	7.2
400	23	6,744	-46.6	-43.2	33	7.9
350	23	7,621	-52.2		33	8.3
300	23	8,607	-56.0		33	8.3
250	23	9,767	-55.6		32	8.7
200	23	11,193	-54.1		30	9.5
175	23	12,053	-53.0		29	7.8
150	23	13,049	-52.2		28	8.8
125	23	14,230	-51.8		28	9.5
100	23	15,679	-51.4		27	10.7
80	21	17,132	-51.4		27	12.6
70	20	17,987	-51.2		26	14.2
60	20	18,990	-50.9		26	15.4
50	20	20,178	-50.7		26	16.3
40	19	21,625	-50.9		26	18.3
30	18	23,497	-51.7		27	21.7
25	17	24,687	-51.2		27	23.7
20	16	26,134	-51.2		27	24.7
15	14	28,009	-51.5		27	26.6
10	10	30,[illegible]9	-49.9			

BETHEL, AK 1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	39	-12.9	-17.2	05	3.3
1000	18	110	-8.3	-12.5	07	4.2
950	30	451	-9.4	-14.9	07	4.5
900	30	870	-9.2	-15.9	10	2.7
850	30	1,311	-10.5	-18.4	12	1.6
800	30	1,776	-12.1	-21.8	13	.9
750	30	2,268	-14.2	-24.5	04	1.1
700	30	2,789	-17.2	-27.0	04	1.3
650	30	3,341	-20.3	-30.3	03	1.2
600	30	3,929	-24.3	-33.9	01	1.0
550	30	4,558	-28.6	-37.7	33	.5
500	30	5,234	-33.5	-40.8	25	.7
450	30	5,966	-38.5	-42.6	27	1.8
400	30	6,766	-43.9	-45.8	28	1.9
350	29	7,663	-48.8		27	2.3
300	29	8,663	-53.0		27	3.3
250	29	9,833	-54.7		26	5.4
200	29	11,265	-53.3		25	8.0
175	29	12,128	-52.2		25	7.3
150	29	13,129	-50.6		25	8.3
125	29	14,317	-50.6		25	9.2
100	29	15,776	-49.7		24	8.4
80	28	17,238	-49.2		25	8.6
70	28	18,114	-49.6		25	8.0
60	28	19,124	-49.8		24	8.3
50	28	20,318	-49.8		24	7.8
40	28	21,778	-49.6		25	7.0
30	27	23,668	-49.6		25	6.1
25	26	24,870	-49.5		25	7.1
20	24	26,[illegible]	-50.1		25	6.3
15	20	28,204	-51.2		26	8.2

■ BISMARCK, ND 955 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	503	-5.1	-9.7	30	.9
1000						
950	24	565	-5.6	-9.7	29	.8
900	30	973	-2.9	-8.4	29	4.4
850	30	1,426	-3.0	-10.6	30	6.2
800	30	1,905	-4.8	-12.6	30	7.2
750	30	2,411	-7.2	-15.5	30	8.1
700	30	2,946	-10.0	-18.9	29	10.3
650	30	3,515	-13.2	-21.8	29	12.2
600	30	4,120	-16.6	-26.3	29	14.1
550	30	4,770	-20.4	-29.8	28	14.9
500	30	5,469	-25.0	-33.9	28	16.1
450	29	6,226	-30.4	-38.8	28	17.4
400	29	7,053	-36.4	-43.7	28	17.6
350	29	7,969	-42.6	-46.1	28	19.7
300	28	8,993	-48.2		28	23.4
250	28	10,182	-52.3		28	24.3
200	28	11,623	-52.8		28	24.8
175	28	12,485	-52.8		27	21.9
150	28	13,477	-54.1		27	21.3
125	27	14,645	-55.1		27	18.4
100	27	16,066	-56.3		27	14.5
80	26	17,484	-57.8		28	11.1
70	26	18,323	-58.0		28	8.3
60	22	19,298	-58.4		28	7.2
50	22	20,446	-57.7		28	5.2
40	22	21,856	-57.2		30	2.4
30	21	23,677	-56.6		01	1.6
25	21	24,835	-56.0		05	2.5
20	21	26,256	-55.5		06	4.0
15	17	28,132	-53.3		07	6.9
10	15	30,741	-50.5		08	8.2
7	8	33,129	-47.7			

BOISE, ID 918 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	871	2.0	-3.1	11	1.6
1000						
950						
900	30	1,029	3.6	-3.5	11	.6
850	30	1,493	2.6	-5.5	27	2.8
800	30	1,981	-.4	-7.0	27	5.7
750	30	2,495	-3.6	-10.0	28	9.7
700	30	3,037	-6.8	-13.8	28	11.8
650	30	3,612	-10.0	-16.5	28	14.3
600	30	4,226	-13.2	-20.9	28	17.6
550	30	4,884	-16.8	-25.8	28	20.6
500	30	5,594	-21.0	-27.9	28	23.0
450	30	6,365	-26.0	-31.0	28	25.7
400	30	7,208	-31.6	-37.5	28	29.4
350	30	8,144	-37.9	-42.3	28	34.2
300	30	9,187	-44.9		29	36.4
250	30	10,386	-52.1		29	38.3
200	30	11,812	-56.7		29	37.8
175	30	12,660	-56.7		29	32.8
150	30	13,633	-58.2		29	29.5
125	29	14,776	-59.6		29	24.7
100	29	16,166	-60.7		29	18.6
80	29	17,552	-61.5		29	13.8
70	28	18,380	-61.4		29	10.6
60	27	19,334	-61.7		29	7.8
50	27	20,465	-61.2		29	3.5
40	25	21,856	-59.8		32	1.5
30	24	23,663	-57.7		07	1.2
25	21	24,824	-56.6		09	3.8
20	18	26,245	-54.9		08	4.4
15	14	28,081	-53.8		09	6.5
10						

BOOTHVILLE, LA 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1	16.6	14.0	03	.8
1000	30	142	17.2	13.1	03	.5
950	30	579	14.8	9.5	24	1.3
900	30	1,035	12.6	5.8	24	3.2
850	30	1,514	10.5	1.4	25	5.2
800	30	2,017	8.6	-1.8	25	6.2
750	30	2,550	6.4	-6.3	25	7.9
700	30	3,112	3.3	-10.8	25	8.9
650	30	3,710	.1	-14.3	25	9.7
600	30	4,347	-3.4	-18.5	26	10.1
550	28	5,030	-7.7	-23.1	27	12.0
500	28	5,765	-12.8	-28.9	27	13.7
450	28	6,561	-18.1	-32.8	27	15.8
400	28	7,430	-24.2	-38.0	27	18.2
350	28	8,393	-31.1	-43.5	26	20.7
300	28	9,466	-39.0	-47.5	26	25.4
250	28	10,693	-48.0		27	28.7
200	28	12,132	-57.5		26	33.0
175	28	12,970	-60.5		26	31.8
150	27	13,922	-63.8		26	28.7
125	27	15,028	-68.0		26	23.3
100	27	16,359	-70.6		26	17.6
80	27	17,684	-70.3		26	11.4
70	26	18,485	-67.6		26	8.9
60	26	19,420	-65.3		26	7.3
50	25	20,539	-61.9		26	5.8
40	21	21,922	-60.5		26	5.7
30	18	23,723	-58.7		28	6.8
25	17	24,872	-57.3		27	8.8
20	17	26,292	-55.0		27	7.7
15	15	28,167	-50.5		28	11.6
10	9	30,831	-45.4			

■ BROWNSVILLE, TX 1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	7	17.5	14.7	17	.5
1000	30	129	20.3	16.2	15	1.6
950	30	571	18.1	13.4	17	5.2
900	30	1,034	15.9	9.6	18	5.1
850	30	1,518	14.0	2.5	21	5.5
800	30	2,028	12.4	-3.7	23	3.0
750	30	2,567	9.7	-6.4	27	4.0
700	30	3,136	6.5	-9.1	27	5.8
650	30	3,740	2.7	-12.5	27	6.8
600	30	4,383	-1.0	-17.8	27	7.5
550	30	5,071	-5.4	-21.3	27	8.7
500	30	5,812	-10.3	-26.7	27	10.5
450	30	6,616	-15.6	-31.5	27	12.2
400	30	7,493	-22.5	-35.5	26	15.9
350	30	8,462	-29.7	-42.1	26	18.5
300	30	9,540	-38.0	-49.4	26	23.4
250	30	10,770	-47.3		26	27.3
200	30	12,212	-57.3		26	29.7
175	30	13,047	-62.1		26	29.2
150	30	13,991	-65.9		26	25.9
125	30	15,087	-70.1		26	21.0
100	29	16,401	-73.3		26	14.4
80	27	17,716	-71.1		26	8.6
70	26	18,513	-68.7		26	7.2
60	26	19,442	-66.1		25	6.2
50	25	20,554	-63.0		24	6.1
40	25	21,936	-60.8		24	2.3
30	24	23,729	-59.0		28	3.2
25	23	24,878	-57.0		28	1.9
20	22	26,306	-53.3		27	5.2
15	20	28,182	-48.9		28	12.2
10	9	30,881	-43.6			

BUFFALO, NY 992 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	218	4.9	2.2	22	1.2
1000	5	247	1.0	-2.7		
950	30	569	3.8	1.1	22	3.8
900	30	1,007	2.1	-1.4	24	6.1
850	30	1,468	.0	-4.7	25	7.0
800	30	1,952	-1.9	-7.9	25	7.8
750	30	2,464	-4.0	-11.4	25	8.2
700	30	3,006	-6.2	-13.5	26	9.9
650	30	3,584	-8.7	-16.9	26	11.3
600	30	4,201	-12.0	-20.5	26	13.0
550	30	4,862	-15.7	-23.7	25	14.6
500	30	5,575	-20.3	-29.7	25	15.7
450	30	6,348	-25.5	-34.3	25	17.6
400	29	7,203	-30.9	-39.2	25	19.0
350	29	8,142	-36.9	-42.7	25	21.2
300	29	9,190	-43.9	-46.7	25	24.1
250	29	10,396	-50.4		25	26.2
200	29	11,834	-55.2		25	24.9
175	29	12,684	-56.4		25	23.5
150	29	13,659	-57.9		25	19.8
125	29	14,803	-59.8		25	18.8
100	29	16,191	-61.3		25	13.1
80	29	17,575	-61.8		25	9.3
70	28	18,[illegible]	-61.2		25	7.6
60	25	19,348	-60.8		25	5.1
50	24	20,486	-60.1		25	3.8
40	22	21,887	-59.1		22	2.1
30	22	23,695	-58.1		09	1.8
25	20	24,843	-57.3		09	2.3
20	20	26,262	-55.6		09	1.4
15	16	28,077	-54.8		15	.2
10	7	30,701	-49.2			

CAPE HATTERAS, NC 1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	4	13.3	10.9	35	.9
1000	29	169	14.8	9.9	35	.6
950	30	596	12.3	7.2	25	1.4
900	30	1,049	9.9	2.7	24	2.9
850	30	1,522	7.8	-.9	24	4.7
800	30	2,021	5.7	-4.1	24	6.4
750	30	2,547	3.6	-7.4	24	8.7
700	30	3,105	1.3	-12.3	24	10.1
650	30	3,699	-1.7	-14.8	25	11.6
600	30	4,332	-4.9	-20.8	25	13.3
550	30	5,011	-9.0	-25.1	25	14.6
500	30	5,742	-13.9	-29.6	25	16.6
450	30	6,534	-19.1	-33.2	25	18.5
400	30	7,400	-25.0	-37.7	25	21.3
350	30	8,360	-32.1	-43.6	25	24.0
300	30	9,427	-40.4	-50.5	25	24.6
250	30	10,647	-48.9		26	27.7
200	30	12,085	-56.7		26	27.3
175	30	12,926	-59.9		26	28.4
150	30	13,883	-62.4		26	25.2
125	30	14,999	-65.7		26	21.9
100	30	16,346	-68.2		26	16.8
80	30	17,688	-67.2		26	11.6
70	30	18,497	-65.9		26	8.8
60	30	19,437	-63.7		26	6.8
50	30	20,562	-61.7		26	4.7
40	30	21,950	-60.1		27	5.7
30	29	23,750	-58.9		30	4.3
25	28	24,900	-57.3		30	3.5
20	28	26,317	-55.2		30	3.3
15	25	28,166	-52.6		28	4.8
10	20	30,793	-48.8		28	6.3

RAWINSONDE DATA

Average monthly values

• CARIBOU, ME 995 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	191	-1.1	-4.3	25	1.1
1000	14	236	-.6	-4.6	27	.8
950	30	561	-.5	-4.0	25	3.4
900	30	993	-1.4	-6.6	26	5.6
850	30	1,448	-2.2	-9.7	26	7.1
800	30	1,929	-3.4	-11.4	26	8.9
750	30	2,439	-4.8	-14.1	26	10.6
700	30	2,979	-7.1	-17.4	26	12.9
650	30	3,554	-9.7	-19.7	26	14.8
600	30	4,169	-12.8	-22.8	25	16.8
550	30	4,828	-16.7	-26.8	25	18.6
500	30	5,537	-21.6	-31.9	25	20.7
450	30	6,305	-26.9	-37.1	25	20.9
400	30	7,145	-32.7	-41.1	26	21.2
350	30	8,075	-38.8	-44.8	25	22.0
300	30	9,115	-45.5		25	23.8
250	30	10,316	-51.2		25	25.8
200	30	11,752	-54.6		26	26.1
175	30	12,607	-54.7		26	22.8
150	30	13,589	-56.7		25	21.0
125	29	14,733	-57.7		26	15.6
100	29	16,137	-59.0		25	12.9
80	29	17,532	-60.2		25	8.8
70	28	18,359	-60.0		25	5.8
60	28	19,322	-59.8		25	4.8
50	26	20,466	-58.9		24	2.1
40	24	21,859	-58.8		30	1.2
30	22	23,662	-58.2		36	1.0
25	21	24,827	-57.5		05	1.2
20	20	26,244	-56.3		03	2.6
15	19	28,074	-55.4		02	2.8
10	10	30,704	-52.2			
7						

CENTREVILLE, AL 1001 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	140	10.9	8.0	08	1.0
1000	18	180	9.2	3.1	09	.7
950	30	578	11.6	6.0	17	3.3
900	30	1,030	10.2	3.5	21	4.4
850	30	1,505	8.1	1.4	23	5.2
800	30	2,004	6.1	-3.1	24	6.1
750	30	2,532	3.9	-7.3	24	7.0
700	30	3,089	.9	-11.2	25	8.4
650	30	3,682	-1.9	-15.0	25	10.8
600	30	4,315	-5.4	-19.2	25	12.1
550	30	4,993	-9.5	-23.9	25	13.3
500	30	5,723	-14.1	-27.2	25	14.3
450	30	6,514	-19.6	-32.1	26	15.8
400	30	7,378	-25.9	-38.8	26	16.8
350	30	8,334	-33.0	-44.8	26	18.7
300	30	9,398	-40.7	-47.5	26	21.8
250	29	10,620	-48.8		26	25.5
200	29	12,059	-56.7		26	28.8
175	29	12,899	-59.8		26	28.1
150	29	13,858	-61.8		26	25.1
125	29	14,977	-65.2		26	23.0
100	28	16,329	-67.9		25	16.5
80	28	17,668	-68.1		25	13.2
70	26	18,474	-65.5		25	9.5
60	25	19,417	-64.0		26	8.4
50	25	20,939	-62.0		26	6.5
40	25	21,924	-60.4		26	6.7
30	24	23,726	-58.5		26	6.4
25	22	24,872	-57.6		28	6.1
20	21	26,287	-55.5		28	6.0
15	19	28,132	-53.4		27	6.1
10	17	30,772	-47.7		27	10.2
7	8	33,126	-41.7			

CHARLESTON, SC 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	13	12.3	9.8	02	1.0
1000	30	161	15.0	10.0	05	1.1
950	30	595	13.4	7.1	17	.8
900	30	1,049	11.1	4.0	21	2.6
850	30	1,525	9.2	-.8	24	4.1
800	30	2,026	7.5	-3.8	25	5.5
750	30	2,556	5.5	-6.7	25	6.7
700	30	3,118	2.8	-10.2	25	8.1
650	30	3,714	-.1	-14.4	25	9.3
600	30	4,351	-3.6	-18.3	25	11.4
550	30	5,033	-7.8	-23.5	25	13.4
500	30	5,767	-12.9	-28.0	25	15.3
450	30	6,562	-18.4	-31.3	25	16.3
400	30	7,431	-24.7	-36.4	25	18.3
350	30	8,392	-31.7	-42.9	25	21.6
300	30	9,461	-39.8	-49.9	25	24.5
250	30	10,684	-48.6		25	29.2
200	30	12,122	-57.1		26	31.4
175	30	12,961	-60.1		26	31.1
150	30	13,916	-63.3		26	25.8
125	30	15,026	-67.0		25	22.8
100	30	16,364	-69.9		26	18.2
80	29	17,694	-68.7		26	11.6
70	29	18,498	-66.7		26	9.0
60	29	19,436	-63.8		26	7.8
50	29	20,561	-61.9		26	7.1
40	29	21,947	-60.2		27	5.9
30	28	23,751	-58.0		28	6.8
25	27	24,904	-56.4		29	6.8
20	27	26,328	-54.6		28	6.4
15	27	28,179	-52.0		27	9.2
10	22	30,851	-46.4		27	12.6
7						

CHATHAM, MA 1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	16	7.8	4.9	13	.5
1000	28	170	8.3	4.3	23	.7
950	29	586	6.3	2.4	24	3.2
900	29	1,028	5.1	-1.4	25	5.7
850	29	1,494	3.3	-4.9	24	7.5
800	29	1,984	1.5	-6.2	24	9.1
750	29	2,505	-.5	-11.0	24	10.5
700	29	3,051	-3.4	-13.4	24	12.3
650	29	3,635	-6.3	-16.7	25	13.4
600	29	4,257	-9.8	-21.1	25	15.8
550	29	4,923	-14.0	-25.4	25	16.1
500	29	5,640	-18.7	-30.4	25	18.5
450	29	6,418	-23.4	-36.3	25	21.1
400	29	7,272	-28.8	-40.3	25	24.0
350	28	8,222	-35.1	-45.1	25	25.7
300	28	9,277	-42.8	-51.0	25	28.1
250	28	10,487	-50.2		26	28.7
200	28	11,926	-55.8		26	26.5
175	28	12,774	-57.9		26	25.3
150	28	13,742	-59.7		26	22.8
125	27	14,872	-61.9		25	20.6
100	27	16,248	-62.7		25	15.8
80	27	17,619	-63.4		25	10.9
70	27	18,442	-62.7		24	10.8
60	27	19,394	-62.1		24	7.9
50	27	20,523	-61.2		23	8.9
40	27	21,913	-60.0		23	4.1
30	25	23,724	-58.5		04	2.3
25	23	24,873	-57.5		06	2.1
20	23	26,287	-56.4		05	4.2
15	19	28,123	-54.8		05	4.5
10	5	30,780	-52.2			
7						

CHIHUAHUA, MEXICO 859 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	1,428	6.9	.2	25	1.0
1000						
950						
900						
850	29	1,516	10.1	-1.7	25	1.2
800	30	2,019	11.1	-2.5	25	3.1
750	30	2,555	8.3	-5.4	26	4.4
700	30	3,122	5.3	-8.7	27	6.1
650	30	3,724	2.1	-13.7	27	6.4
600	30	4,365	-1.9	-19.0	28	6.9
550	30	5,051	-6.3	-23.5	28	7.7
500	30	5,789	-11.4	-28.4	29	9.5
450	30	6,589	-17.1	-33.4	28	11.1
400	30	7,460	-24.0	-39.2	29	12.7
350	30	8,423	-31.5	-45.2	29	13.6
300	30	9,492	-39.8	-50.4	29	16.7
250	29	10,715	-48.2		29	20.8
200	29	12,155	-57.0		28	22.3
175	29	12,994	-60.6		28	20.9
150	29	13,945	-64.4		27	21.4
125	28	15,048	-68.0		28	18.2
100	28	16,378	-71.3		28	14.3
80	26	17,697	-70.8		28	10.1
70	26	18,493	-68.8		28	8.0
60	25	19,425	-65.8		27	6.9
50	23	20,945	-62.8		26	7.0
40	22	21,934	-59.8		26	5.8
30	21	23,736	-58.4		26	5.1
25	20	24,894	-56.2		27	4.9
20	19	26,308	-55.3		27	6.1
15	8	28,156	-51.7			
10						
7						

• COLD BAY, AK 998 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	29	30	-.6	-3.4	27	.1
1000	12	96	.7	-4.2	08	.7
950	29	425	-2.1	-5.1	36	.7
900	29	852	-5.6	-6.9	34	.9
850	29	1,299	-8.4	-11.3	27	.8
800	29	1,767	-10.7	-15.7	23	.7
750	29	2,261	-13.5	-20.2	23	.7
700	29	2,783	-16.6	-24.5	22	1.1
650	29	3,336	-19.8	-28.9	19	1.6
600	29	3,926	-23.4	-33.4	20	2.2
550	29	4,557	-27.4	-36.8	22	3.3
500	29	5,237	-31.9	-40.8	23	3.5
450	29	5,975	-36.8	-43.1	25	4.3
400	29	6,782	-42.1	-45.0	25	5.7
350	28	7,679	-46.7		26	8.4
300	27	8,702	-50.8		26	9.2
250	27	9,882	-52.8		26	8.6
200	27	11,330	-51.0		25	9.6
175	27	12,200	-50.8		25	10.3
150	26	13,216	-50.2		26	7.6
125	24	14,400	-50.6		25	8.1
100	22	15,860	-50.1		24	6.7
80	20	17,318	-50.9		25	7.2
70	20	18,188	-50.4		25	5.9
60	18	19,188	-51.2		24	6.3
50	18	20,372	-51.4		25	4.7
40	17	21,828	-50.9		23	2.2
30	16	23,717	-50.3		12	.5
25	15	24,895	-51.2		06	.8
20	14	26,344	-50.7		11	2.6
15	10	28,208	-50.0		12	2.6
10	6	30,854	-49.0			

DAYTON, OH 982 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	299	5.0	2.1	22	.7
1000						
950	30	570	5.0	1.0	22	3.1
900	30	1,012	4.3	-.6	24	5.8
850	30	1,476	2.5	-3.1	25	7.6
800	30	1,966	.8	-5.2	25	9.1
750	30	2,483	-1.5	-8.0	26	10.7
700	30	3,030	-4.2	-10.9	26	11.9
650	30	3,611	-7.3	-15.4	25	12.8
600	30	4,232	-10.6	-19.5	25	14.4
550	30	4,897	-14.1	-25.2	25	16.4
500	30	5,614	-18.9	-30.2	25	17.9
450	30	6,390	-24.0	-32.6	25	20.8
400	30	7,240	-29.9	-37.8	25	21.8
350	30	8,181	-36.7	-41.5	25	25.0
300	30	9,230	-43.4	-46.6	25	26.9
250	28	10,436	-51.3		26	29.2
200	27	11,872	-55.9		26	30.8
175	27	12,719	-57.1		26	27.7
150	26	13,692	-59.5		26	25.7
125	25	14,833	-62.3		25	21.7
100	24	16,209	-63.9		25	18.1
80	19	17,594	-63.1		26	14.1
70	18	18,418	-62.9		26	8.7
60	18	19,368	-62.6		26	7.2
50	17	20,500	-60.5		27	4.4
40	16	21,898	-60.2		24	1.7
30	11	23,700	-58.3		14	1.1
25	10	24,862	-57.1		05	2.2
20	9	26,263	-54.6			
15	8	28,111	-53.1			
10	6	30,743	-50.1			

DEL RIO, TX 979 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	314	11.5	8.5	06	.4
1000						
950	30	568	14.1	7.2	17	1.5
900	30	1,024	13.4	3.6	20	2.1
850	30	1,505	12.6	-1.9	26	3.0
800	30	2,013	11.2	-7.1	28	5.0
750	30	2,549	8.3	-10.2	28	5.7
700	30	3,114	4.7	-13.5	28	6.8
650	30	3,714	1.4	-16.8	27	7.8
600	30	4,354	-2.6	-21.5	27	8.5
550	30	5,038	-7.0	-25.2	27	9.9
500	30	5,774	-12.3	-29.5	27	11.9
450	30	6,571	-18.0	-34.5	28	13.8
400	30	7,440	-24.6	-39.7	28	15.2
350	30	8,400	-32.2	-45.6	28	17.2
300	30	9,467	-40.5	-52.1	28	19.7
250	30	10,687	-48.8		27	22.8
200	30	12,126	-56.6		27	24.8
175	30	12,966	-60.1		27	24.1
150	30	13,920	-63.5		27	21.8
125	30	15,028	-67.9		27	19.1
100	30	16,360	-70.1		27	15.4
80	30	17,684	-70.4		27	11.0
70	30	18,481	-68.3		27	8.9
60	29	19,414	-65.4		26	7.4
50	29	20,532	-62.5		26	8.1
40	29	21,917	-60.5		26	7.8
30	29	23,716	-58.8		26	5.6
25	29	24,863	-57.8		26	5.8
20	29	26,279	-55.4		28	7.8
15	27	28,124	-53.2		27	10.1
10	15	30,782	-46.7		28	15.6

DENVER, CO 836 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,611	.4	-6.4	25	.7
1000						
950						
900						
850						
800	30	1,964	4.3	-8.9	29	3.6
750	30	2,488	1.9	-11.8	30	6.5
700	30	3,041	-1.8	-14.1	29	7.8
650	30	3,626	-5.7	-16.7	29	10.7
600	30	4,249	-9.4	-21.6	29	13.1
550	30	4,917	-13.5	-26.6	30	14.1
500	30	5,635	-18.6	-30.9	30	15.6
450	30	6,412	-24.0	-35.2	29	18.0
400	30	7,261	-30.0	-40.8	29	20.2
350	30	8,201	-37.0	-44.9	29	23.8
300	30	9,247	-44.9		30	22.9
250	30	10,445	-52.5		29	26.3
200	30	11,870	-56.7		29	26.8
175	30	12,717	-57.1		29	22.8
150	30	13,686	-59.7		29	21.4
125	30	14,819	-62.1		28	19.3
100	30	16,199	-61.8		28	13.3
80	29	17,572	-63.5		28	8.9
70	29	18,391	-63.6		28	6.1
60	28	19,342	-62.9		28	4.5
50	27	20,469	-61.4		28	2.8
40	27	21,858	-60.2		28	1.6
30	25	23,661	-58.4		31	1.1
25	23	24,808	-57.6		35	.6
20	22	26,220	-56.1		35	.6
15	18	28,063	-54.3		09	1.3
10	14	30,703	-51.0		35	1.6

DODGE CITY, KS 924 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	791	1.8	-2.7	26	1.2
1000						
950						
900	30	1,008	5.4	-3.0	24	1.8
850	30	1,476	6.3	-8.5	27	4.1
800	30	1,972	5.2	-10.9	30	5.4
750	30	2,496	2.4	-12.2	30	6.9
700	30	3,050	-1.0	-13.4	29	8.0
650	30	3,639	-4.1	-16.4	28	9.3
600	30	4,266	-7.9	-20.8	28	10.0
550	30	4,937	-12.1	-24.7	28	12.4
500	30	5,660	-16.8	-28.8	28	15.8
450	30	6,442	-22.3	-35.0	28	17.8
400	30	7,296	-29.0	-41.1	28	19.6
350	30	8,240	-36.3	-46.0	28	21.2
300	30	9,289	-44.0		28	23.1
250	30	10,491	-52.0		28	24.8
200	30	11,920	-56.8		28	25.2
175	30	12,763	-57.9		28	24.5
150	30	13,733	-59.2		28	23.8
125	29	14,871	-62.1		28	20.1
100	29	16,243	-64.4		28	13.0
80	28	17,602	-64.9		28	10.5
70	27	18,419	-63.9		27	7.8
60	27	19,366	-63.3		27	5.3
50	26	20,495	-61.8		27	3.7
40	25	21,879	-60.5		28	3.6
30	24	23,674	-58.6		25	2.9
25	24	24,822	-57.6		28	2.9
20	23	26,234	-56.2		28	3.3
15	21	28,071	-53.9		27	3.7
10	11	30,688	-51.6			

EL PASO, TX 883 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	1,193	8.7	-3.9	31	1.3
1000						
950						
900						
850	30	1,503	11.8	-5.7	31	2.4
800	30	2,008	9.2	-7.0	28	4.3
750	30	2,540	6.2	-9.5	28	6.6
700	30	3,102	3.2	-13.4	28	8.9
650	30	3,699	.2	-16.7	28	9.6
600	30	4,335	-3.8	-20.8	28	10.3
550	30	5,016	-8.4	-24.1	29	10.8
500	30	5,749	-13.6	-29.5	29	12.2
450	29	6,548	-18.9	-35.4	29	12.6
400	28	7,410	-25.7	-40.7	30	15.1
350	27	8,377	-32.8	-45.9	30	17.3
300	27	9,440	-41.4	-48.9	30	19.7
250	27	10,654	-50.1		30	22.7
200	27	12,084	-58.3		29	23.5
175	27	12,918	-61.3		29	22.8
150	27	13,868	-64.2		28	21.3
125	27	14,977	-66.9		28	19.8
100	27	16,316	-69.1		28	16.1
80	26	17,646	-68.8		28	11.1
70	26	18,447	-68.0		28	7.2
60	24	19,385	-64.5		27	5.6
50	24	20,505	-62.1		27	6.0
40	24	21,891	-60.2		26	7.0
30	23	23,696	-58.9		26	5.2
25	22	24,844	-57.8		26	7.0
20	22	26,259	-55.6		28	7.0
15	22	28,100	-53.4		28	8.0
10	13	30,759	-46.8			

ELY, NV 810 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	28	1,908	-2.9	-12.6	21	2.1
1000						
950						
900						
850						
800	27	2,015	2.2	-7.5	22	1.7
750	28	2,530	.7	-9.5	30	2.2
700	28	3,081	-2.2	-12.1	29	6.8
650	28	3,667	-4.7	-15.1	29	11.0
600	28	4,293	-8.0	-18.3	30	14.1
550	28	4,964	-12.1	-21.6	29	17.0
500	28	5,687	-16.6	-25.8	29	20.1
450	28	6,471	-21.9	-31.1	29	22.9
400	27	7,328	-27.9	-37.1	29	25.8
350	27	8,276	-34.9	-42.3	29	27.9
300	27	9,330	-43.3		30	31.3
250	26	10,546	-51.9		30	33.8
200	26	11,967	-59.1		30	33.2
175	26	12,802	-60.1		30	31.0
150	25	13,769	-62.0		30	27.8
125	25	14,893	-63.8		29	22.8
100	25	16,254	-65.7		29	16.7
80	21	17,596	-65.6		29	11.8
70	21	18,411	-64.1		29	7.5
60	21	19,356	-63.6		29	5.0
50	20	20,479	-62.4		31	3.4
40	18	21,864	-61.0		30	1.7
30	14	23,669	-58.4		11	.8
25	13	24,814	-57.1		06	2.0
20	11	26,233	-55.3		07	2.7
15	11	28,076	-53.6		08	1.8
10						

EMPALME, MEXICO 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	12	17.1	10.8	34	1.7
1000	30	111	20.6	11.7	34	2.0
950	30	556	22.0	5.4	01	1.8
900	30	1,023	19.7	1.3	30	.5
850	30	1,512	16.5	-1.8	23	1.4
800	30	2,025	13.6	-4.1	23	1.7
750	30	2,565	10.3	-8.2	26	1.9
700	30	3,136	7.3	-13.1	27	2.5
650	30	3,742	4.0	-16.6	29	3.9
600	30	4,387	-.2	-20.0	30	4.9
550	30	5,078	-4.7	-23.8	30	6.3
500	30	5,820	-9.9	-28.6	30	8.1
450	30	6,624	-15.8	-33.8	30	9.2
400	30	7,499	-22.8	-38.1	30	10.0
350	30	8,467	-30.3	-43.7	30	10.7
300	30	9,541	-39.0	-49.8	30	13.3
250	29	10,768	-48.2		30	16.3
200	29	12,207	-56.8		29	19.6
175	29	13,048	-60.1		29	18.2
150	29	14,002	-63.6		28	17.1
125	29	15,108	-67.6		29	15.1
100	29	16,440	-70.7		28	12.3
80	26	17,767	-70.8		29	8.9
70	26	18,563	-68.5		29	6.6
60	22	19,492	-65.2		28	5.1
50	22	20,610	-62.2		26	6.0
40	22	22,000	-59.2		26	5.8
30	21	23,810	-57.3		26	4.8
25	21	24,967	-55.9		27	5.3
20	21	26,395	-53.7		26	5.5
15	14	28,261	-50.6		27	9.8
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• FAIRBANKS, AK 996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	135	-22.8	-27.4	01	.8
1000	11	217	-15.6	-18.7		
950	29	489	-14.9	-19.1	08	3.8
900	29	900	-13.5	-18.7	10	3.2
850	29	1,336	-12.1	-18.2	11	2.8
800	29	1,799	-12.8	-19.1	11	1.8
750	29	2,290	-14.7	-22.5	14	1.2
700	29	2,810	-17.4	-25.6	18	.2
650	29	3,361	-20.8	-29.5	27	1.6
600	29	3,948	-25.1	-33.3	26	2.0
550	29	4,574	-29.6	-37.3	26	2.8
500	29	5,248	-34.5	-39.7	25	3.1
450	29	5,977	-39.2	-41.4	26	4.7
400	29	6,775	-44.6	-45.6	26	6.2
350	29	7,661	-50.0		26	7.0
300	27	8,644	-54.9		26	6.7
250	26	9,802	-54.2		26	6.5
200	23	11,191	-51.6		25	9.5
175	22	12,067	-50.7		25	9.4
150	20	13,056	-50.2		25	10.8
125	20	14,250	-49.1		25	10.8
100	20	15,717	-48.4		25	11.6
80	20	17,186	-48.4		25	12.0
70	20	18,066	-48.3		25	12.3
60	20	19,081	-48.5		25	12.4
50	20	20,280	-48.5		25	12.0
40	19	21,749	-49.2		26	11.3
30	16	23,647	-49.9		27	12.4
25	13	24,842	-50.5		27	13.8
20	8	26,300	-50.8			
15	7	28,169	-51.0			
10						

FLINT, MI 988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	236	4.1	1.6	20	1.2
1000						
950	30	557	2.8	-.6	22	2.7
900	30	994	1.3	-2.4	24	4.5
850	30	1,454	.1	-6.0	25	6.2
800	30	1,939	-1.6	-8.3	25	7.7
750	30	2,451	-3.8	-10.8	25	9.1
700	30	2,994	-6.4	-14.5	25	10.7
650	30	3,570	-9.3	-16.5	25	11.8
600	30	4,186	-12.6	-20.2	25	13.0
550	30	4,846	-16.4	-24.7	25	14.2
500	30	5,557	-20.7	-29.7	25	16.1
450	30	6,328	-25.7	-34.0	25	19.4
400	30	7,171	-31.8	-39.8	25	20.8
350	30	8,106	-37.9	-42.7	25	23.8
300	30	9,151	-44.5	-47.8	25	28.0
250	30	10,355	-50.7		26	28.8
200	29	11,795	-53.8		26	25.9
175	29	12,650	-55.6		26	23.6
150	29	13,630	-56.7		26	21.2
125	28	14,785	-58.9		26	18.3
100	27	16,169	-60.9		26	13.4
80	27	17,557	-61.0		26	10.2
70	27	18,387	-60.8		26	7.1
60	27	19,348	-60.3		25	5.9
50	27	20,485	-60.2		25	3.1
40	26	21,884	-59.3		24	.4
30	25	23,684	-57.8		06	.6
25	25	24,836	-57.0		08	2.5
20	24	26,240	-55.7		08	2.7
15	22	28,108	-54.2		06	4.7
10	15	30,741	-49.8		07	8.7

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

GLASGOW, MT 932 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	696	-6.1	-9.6	28	.5
1000						
950						
900	29	975	-1.8	-8.4	29	4.5
850	29	1,430	-2.3	-10.7	29	7.4
800	29	1,910	-4.4	-12.8	29	8.8
750	29	2,416	-7.1	-14.5	29	10.8
700	29	2,951	-10.4	-17.0	29	11.6
650	29	3,518	-13.8	-21.8	29	12.8
600	29	4,121	-17.9	-26.4	29	13.8
550	29	4,767	-22.0	-31.5	28	15.5
500	29	5,461	-26.9	-35.7	28	16.8
450	29	6,214	-31.7	-40.0	28	18.2
400	29	7,038	-37.3	-42.2	28	20.4
350	29	7,952	-43.2	-46.8	28	22.6
300	29	8,974	-48.8		28	25.8
250	29	10,162	-51.9		28	26.8
200	29	11,603	-52.8		28	24.8
175	29	12,465	-52.8		28	23.8
150	29	13,461	-52.3		28	21.5
125	29	14,636	-54.0		28	17.2
100	28	16,074	-55.5		28	14.8
80	27	17,491	-57.0		28	11.4
70	26	18,335	-57.4		28	9.0
60	23	19,309	-57.7		28	8.8
50	22	20,458	-57.5		27	4.4
40	22	21,870	-56.7		28	2.9
30	21	23,701	-55.9		10	2.3
25	21	24,864	-55.3		08	3.7
20	20	26,299	-54.8		09	6.3
15	19	28,141	-53.0		08	8.6
10						
7						

GRAND JUNCTION, CO 854 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,472	.7	-4.7	13	1.4
1000						
950						
900						
850	22	1,535	2.4	-6.7	12	2.3
800	30	1,999	3.5	-7.9	18	2.5
750	30	2,520	.8	-10.1	24	3.4
700	30	3,071	-2.9	-12.2	27	5.5
650	30	3,654	-6.4	-16.1	28	8.3
600	30	4,276	-9.5	-20.3	29	11.6
550	30	4,944	-13.3	-23.8	29	13.9
500	30	5,663	-18.0	-28.0	29	16.3
450	30	6,443	-23.0	-32.7	29	18.4
400	29	7,294	-28.9	-37.7	29	22.1
350	29	8,239	-35.9	-44.0	30	24.7
300	29	9,289	-43.9		30	27.1
250	29	10,491	-51.7		29	30.8
200	29	11,920	-56.7		29	30.5
175	29	12,766	-57.3		29	27.9
150	29	13,737	-59.2		29	23.8
125	28	14,876	-61.6		28	20.1
100	28	16,251	-63.9		29	15.3
80	27	17,621	-64.9		29	10.7
70	24	18,444	-64.7		29	8.9
60	24	19,390	-63.2		30	5.7
50	22	20,520	-61.9		27	2.5
40	21	21,904	-60.0		27	2.8
30	20	23,707	-58.5		06	.6
25	18	24,857	-56.6		10	.8
20	15	26,280	-55.2		03	.9
15	9	28,130	-53.9			
10						
7						

*** GREAT FALLS, MT 886 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,118	-2.3	-9.5	24	6.7
1000						
950						
900						
850	30	1,447	-1.5	-11.0	25	9.2
800	30	1,929	-3.9	-12.0	27	10.3
750	30	2,435	-7.1	-13.7	27	11.6
700	30	2,970	-10.4	-17.1	28	12.3
650	30	3,538	-13.5	-20.3	28	13.4
600	30	4,143	-17.1	-24.6	28	15.8
550	30	4,791	-21.2	-28.1	28	17.6
500	30	5,488	-25.9	-32.6	28	19.6
450	30	6,243	-31.0	-36.8	28	22.4
400	30	7,068	-36.9	-41.4	28	25.7
350	30	7,983	-42.9	-44.8	29	30.1
300	30	9,009	-48.1		29	34.0
250	30	10,199	-52.5		29	33.5
200	30	11,632	-54.6		29	27.8
175	30	12,487	-54.2		28	26.7
150	30	13,476	-54.3		28	22.8
125	29	14,651	-55.9		28	20.9
100	29	16,069	-56.8		28	15.7
80	27	17,486	-58.1		28	12.1
70	26	18,322	-58.8		28	9.8
60	25	19,289	-58.8		28	7.5
50	23	20,436	-58.2		29	4.4
40	23	21,842	-57.6		30	1.7
30	21	23,660	-56.3		08	1.8
25	18	24,824	-56.2		08	4.4
20	17	26,240	-55.2		06	5.7
15	13	28,067	-54.5		05	7.9
10						
7						

GREEN BAY, WI 990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	210	-.3	-3.0	26	1.5
1000	6	248	-3.6	-7.5		
950	30	543	.0	-4.4	24	2.2
900	30	976	-1.1	-6.9	25	3.5
850	30	1,431	-2.8	-10.1	25	5.4
800	30	1,911	-4.2	-13.6	25	6.4
750	30	2,418	-6.1	-15.9	25	7.1
700	30	2,956	-8.5	-18.7	25	8.7
650	30	3,528	-11.3	-21.0	26	10.2
600	30	4,139	-14.4	-25.0	26	11.6
550	30	4,794	-18.1	-28.3	26	12.9
500	30	5,500	-22.7	-32.0	26	14.2
450	30	6,265	-27.6	-36.8	26	16.1
400	30	7,102	-33.3	-41.9	26	17.5
350	29	8,028	-39.9	-45.0	26	19.4
300	29	9,073	-46.4		25	21.5
250	29	10,269	-51.8		25	24.9
200	29	11,707	-54.2		26	21.5
175	29	12,562	-55.0		26	20.6
150	29	13,545	-56.1		26	19.4
125	28	14,702	-57.8		26	16.3
100	28	16,101	-60.2		26	14.1
80	27	17,497	-59.9		26	10.2
70	26	18,323	-60.0		26	7.9
60	25	19,280	-59.8		26	6.3
50	25	20,419	-59.4		26	5.3
40	24	21,813	-59.0		26	3.8
30	23	23,619	-58.0		26	1.6
25	22	24,776	-57.2		02	1.0
20	20	26,199	-56.3		06	1.9
15	17	28,052	-53.7		08	3.6
10	11	30,741	-47.8		09	8.9
7	6	33,118	-45.2			

GREENSBORO, NC 987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	275	7.4	4.2	01	.6
1000						
950	30	593	9.2	2.7	25	1.8
900	30	1,041	8.2	2.0	24	3.4
850	30	1,512	6.1	-.1	24	5.4
800	30	2,007	3.8	-3.4	25	7.2
750	30	2,530	1.9	-6.8	25	9.3
700	30	3,085	.1	-10.2	26	10.5
650	30	3,677	-2.6	-15.1	26	11.6
600	30	4,307	-6.4	-19.6	26	12.7
550	30	4,982	-10.8	-25.3	26	14.5
500	30	5,708	-15.5	-30.6	25	16.5
450	29	6,500	-20.4	-33.9	25	19.0
400	29	7,362	-26.4	-37.4	25	21.5
350	29	8,316	-33.5	-43.3	25	21.7
300	29	9,378	-41.2	-47.0	25	22.6
250	29	10,595	-49.1		25	26.8
200	29	12,034	-56.4		26	27.5
175	29	12,876	-59.4		26	28.8
150	29	13,834	-61.9		26	25.8
125	29	14,956	-64.5		26	21.8
100	29	16,310	-67.2		26	16.5
80	29	17,656	-66.6		26	11.3
70	29	18,468	-65.2		27	8.4
60	29	19,410	-63.7		27	6.7
50	29	20,535	-61.8		27	5.0
40	29	21,920	-60.7		28	3.5
30	29	23,721	-58.4		31	2.8
25	28	24,867	-57.5		33	2.7
20	28	26,283	-55.7		33	2.6
15	26	28,128	-53.0		30	3.1
10	19	30,797	-49.8		28	6.5
7	6	33,095	-45.6			

GUADALUPE IS., MEXICO 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	26	23	16.6	13.2	34	5.2
1000	26	137	16.2	11.8	33	5.5
950	26	574	16.7	4.3	34	3.6
900	26	1,033	15.1	-1.1	35	2.6
850	26	1,516	14.6	-6.3	35	2.3
800	26	2,027	13.4	-8.6	33	2.4
750	26	2,567	10.8	-10.9	32	2.8
700	26	3,138	7.7	-13.3	31	3.8
650	26	3,745	3.9	-16.3	31	4.8
600	26	4,389	-.7	-19.7	30	5.7
550	26	5,078	-5.1	-23.8	29	6.6
500	26	5,819	-10.5	-27.9	29	7.5
450	26	6,621	-16.6	-32.8	29	9.0
400	26	7,494	-23.2	-38.3	29	9.0
350	26	8,460	-30.9	-44.1	29	10.1
300	26	9,532	-39.3	-49.9	28	12.2
250	26	10,757	-48.2		28	15.6
200	26	12,197	-57.6		28	16.1
175	26	13,034	-61.0		28	18.3
150	26	13,985	-63.9		28	15.7
125	26	15,093	-67.4		28	13.0
100	26	16,426	-70.7		28	10.9
80	25	17,742	-71.7		29	8.3
70	25	18,534	-69.8		30	6.4
60	25	19,458	-67.1		30	5.1
50	25	20,566	-64.4		27	4.0
40	25	21,940	-61.3		26	3.5
30	23	23,737	-58.8		26	5.3
25	23	24,886	-56.9		26	6.4
20	22	26,303	-55.1		26	7.6
15	17	28,165	-52.4		27	8.8
10						

*** GUAM, MARIANA IS. 999 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	111	25.1	23.6	09	3.5
1000						
950	29	551	23.5	21.2	09	8.5
900	29	1,023	21.0	17.3	09	8.1
850	29	1,517	18.2	14.6	09	6.8
800	29	2,036	15.8	10.1	09	6.8
750	29	2,583	13.3	5.0	09	7.5
700	29	3,161	10.5	-.7	09	8.0
650	29	3,775	7.0	-4.0	09	7.4
600	29	4,429	3.3	-8.4	09	6.5
550	29	5,130	-.7	-12.0	09	6.3
500	29	5,886	-5.1	-17.2	09	6.1
450	29	6,706	-9.8	-23.3	09	6.4
400	29	7,605	-15.6	-30.7	09	5.7
350	29	8,601	-22.5	-37.0	09	4.8
300	29	9,712	-30.7	-44.6	07	3.5
250	29	10,980	-40.8	-48.7	08	4.9
200	29	12,459	-53.1		09	5.5
175	29	13,306	-60.1		10	6.5
150	29	14,250	-67.8		10	6.9
125	29	15,326	-75.7		09	8.9
100	27	16,593	-81.8		09	11.6
80	21	17,845	-81.8		10	11.3
70	20	18,605	-77.1		09	11.9
60	20	19,504	-71.2		09	12.4
50	20	20,598	-65.8		09	13.7
40	20	21,965	-62.6		09	11.3
30	20	23,764	-56.5		13	.6
25	19	24,930	-53.4		27	5.3
20	18	26,381	-48.5		28	10.2
15	18	28,287	-45.5		28	11.2
10	15	31,026	-39.3		28	9.4

HILO, HI 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	10	20.4	18.5	24	1.9
1000	30	142	21.9	19.1	23	1.6
950	30	587	19.2	17.6	14	2.2
900	30	1,051	16.2	14.5	12	3.1
850	30	1,536	13.6	10.2	12	3.6
800	30	2,046	11.9	3.8	11	3.8
750	30	2,585	10.2	-3.4	11	3.9
700	30	3,157	7.6	-8.3	10	3.6
650	30	3,764	5.1	-12.3	10	2.9
600	30	4,414	2.0	-17.0	07	2.5
550	30	5,111	-2.2	-21.2	05	1.7
500	30	5,860	-7.6	-24.3	01	1.8
450	30	6,672	-13.1	-28.7	33	2.3
400	30	7,559	-19.3	-34.0	31	5.2
350	30	8,541	-26.5	-40.5	29	8.6
300	30	9,632	-35.1	-47.7	29	11.7
250	30	10,880	-44.0		29	15.4
200	30	12,342	-54.9		28	18.2
175	30	13,184	-60.8		28	17.8
150	30	14,129	-66.7		28	15.1
125	30	15,215	-72.9		28	12.0
100	30	16,503	-77.9		27	7.4
80	29	17,784	-75.8		23	.8
70	29	18,562	-72.7		11	3.2
60	29	19,478	-68.5		10	5.6
50	28	20,581	-65.1		09	5.7
40	28	21,950	-62.7		09	5.6
30	27	23,741	-58.4		07	4.2
25	27	24,897	-55.0		05	1.6
20	26	26,337	-51.7		29	5.1
15	23	28,212	-48.7		26	10.4
10	15	30,928	-41.4		27	24.1

HUNTINGTON, WV 989 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	246	7.2	2.2	21	.4
1000						
950	30	575	7.2	2.5	22	3.6
900	30	1,020	5.8	.1	24	6.7
850	30	1,487	3.8	-1.3	24	8.3
800	30	1,979	2.1	-3.4	25	8.5
750	30	2,498	-.3	-7.1	25	9.1
700	30	3,048	-3.2	-11.5	26	9.6
650	30	3,632	-5.7	-15.3	26	11.3
600	30	4,256	-9.1	-18.9	25	12.8
550	30	4,925	-12.7	-23.5	25	15.2
500	30	5,645	-17.5	-28.8	25	17.7
450	30	6,426	-22.8	-33.5	25	19.8
400	30	7,280	-28.7	-37.7	25	21.9
350	29	8,234	-35.1	-42.8	25	21.9
300	29	9,290	-42.5	-48.4	25	24.1
250	29	10,500	-50.3		25	26.2
200	28	11,943	-56.6		25	28.9
175	26	12,795	-59.1		25	27.7
150	26	13,756	-61.3		25	26.5
125	25	14,876	-63.2		25	22.2
100	23	16,234	-64.4		26	17.7
80	22	17,595	-64.1		26	12.1
70	22	18,413	-63.7		26	9.9
60	22	19,361	-62.6		26	7.7
50	22	20,489	-61.0		27	4.5
40	22	21,880	-59.9		27	3.8
30	22	23,685	-58.2		28	2.3
25	22	24,836	-57.2		31	2.3
20	22	26,254	-55.3		28	1.6
15	21	28,100	-53.2		29	1.9
10	17	30,719	-50.3		27	6.5

*** INTERNATIONAL FALLS, MN 970 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	359	-6.9	-9.2	21	.6
1000						
950	29	530	-5.0	-7.2	25	2.4
900	30	950	-5.1	-9.9	28	5.1
850	30	1,398	-6.3	-12.8	28	5.6
800	30	1,872	-7.3	-14.0	28	6.3
750	30	2,373	-9.1	-15.9	27	7.3
700	30	2,906	-10.9	-19.2	27	8.5
650	30	3,473	-13.7	-22.4	27	10.0
600	30	4,078	-16.8	-25.8	28	11.0
550	30	4,728	-21.1	-28.9	28	12.2
500	30	5,423	-25.8	-34.1	28	14.6
450	30	6,179	-30.8	-37.6	27	17.1
400	30	7,006	-37.1	-42.1	27	17.9
350	30	7,917	-43.5	-43.9	26	18.5
300	30	8,938	-49.5		26	21.4
250	30	10,123	-52.7		27	21.0
200	29	11,558	-51.7		26	21.7
175	29	12,423	-52.3		26	20.0
150	27	13,421	-53.0		26	19.5
125	27	14,592	-54.7		26	16.9
100	27	16,014	-56.4		26	13.5
80	27	17,429	-57.0		27	9.5
70	27	18,274	-57.1		27	7.9
60	27	19,250	-57.4		27	5.2
50	25	20,413	-57.2		28	2.8
40	25	21,826	-56.7		26	.7
30	25	23,651	-56.7		05	3.3
25	24	24,820	-56.2		07	6.4
20	23	26,235	-55.7		07	6.8
15	16	28,103	-53.3		07	8.2
10	7	30,672	-50.2			

*** ISLE DEL CISNE 1011 MB**

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	10	26.2	22.3	06	3.6
1000	30	105	26.1	22.5	06	4.6
950	30	557	22.6	20.2	07	6.4
900	30	1,027	19.6	16.5	07	5.7
850	30	1,518	16.6	11.9	08	6.8
800	30	2,034	14.3	7.9	09	6.8
750	30	2,577	11.5	3.5	09	4.5
700	30	3,151	8.4	-.9	10	4.1
650	30	3,761	5.3	-5.4	10	3.0
600	30	4,412	2.0	-9.8	12	1.7
550	30	5,109	-1.8	-15.7	16	1.4
500	30	5,862	-6.3	-19.7	20	2.0
450	29	6,678	-11.6	-27.1	22	3.0
400	29	7,570	-17.6	-32.0	23	3.6
350	29	8,558	-24.9	-37.4	24	5.1
300	29	9,658	-33.2	-44.8	25	7.9
250	29	10,913	-43.3		26	11.3
200	29	12,375	-55.4		25	12.8
175	29	13,214	-62.3		25	13.8
150	29	14,149	-69.7		26	12.7
125	29	15,220	-75.2		26	12.6
100	27	16,503	-77.6		27	7.8
80	24	17,779	-76.7		26	1.7
70	20	18,554	-72.7		08	1.1
60	20	19,470	-68.4		09	4.6
50	20	20,575	-64.5		09	7.5
40	20	21,947	-62.1		09	9.3
30	20	23,748	-56.0		10	5.2
25	18	24,913	-52.6		08	1.6
20	18	26,366	-48.9		30	4.6
15	18	28,276	-44.0		27	8.8
10	17	31,027	-38.7		27	14.7
7						

JACKSON, MS 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	11.0	9.4	13	.9
1000	23	138	11.3	6.4	12	1.0
950	30	572	12.8	5.3	19	2.3
900	30	1,025	11.2	2.1	23	3.8
850	30	1,501	9.1	-1.1	26	5.1
800	30	2,001	6.7	-4.0	26	6.0
750	30	2,529	4.2	-9.2	26	8.2
700	30	3,088	1.4	-12.3	26	9.3
650	30	3,681	-1.7	-17.0	26	10.1
600	30	4,314	-4.9	-21.6	27	10.9
550	30	4,993	-8.8	-26.6	27	12.4
500	30	5,725	-13.5	-30.5	27	13.7
450	30	6,518	-19.2	-35.1	26	14.8
400	30	7,383	-25.6	-39.6	26	15.8
350	30	8,341	-32.5	-44.1	26	17.8
300	30	9,407	-40.3	-47.8	26	21.8
250	30	10,628	-48.6		26	25.8
200	30	12,067	-57.0		26	30.2
175	30	12,908	-59.5		26	29.6
150	30	13,866	-62.1		26	26.6
125	29	14,984	-64.9		26	23.1
100	26	16,335	-67.9		26	18.3
80	25	17,675	-68.0		27	11.2
70	24	18,482	-66.6		26	9.0
60	22	19,412	-64.9		26	8.9
50	22	20,533	-61.9		27	7.8
40	22	21,918	-60.7		26	7.7
30	22	23,716	-58.9		27	7.2
25	22	24,863	-57.7		27	7.7
20	21	26,274	-56.3		27	7.0
15	21	28,114	-53.6		27	9.8
10	15	30,762	-48.2		28	12.6
7	11	33,141	-43.7			

JOHN F. KENNEDY INT. AP NY 1020 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	5	7.3	2.7	35	1.1
1000	29	177	6.7	2.6	01	.9
950	30	569	5.2	1.6	27	1.6
900	30	1,030	3.7	-1.8	26	6.4
850	30	1,493	2.3	-4.2	25	7.0
800	30	1,982	.5	-6.0	24	9.1
750	30	2,499	-1.1	-10.8	24	11.3
700	30	3,047	-3.3	-14.1	24	12.9
650	30	3,630	-6.2	-17.6	24	14.5
600	30	4,253	-9.4	-21.4	25	15.2
550	30	4,921	-13.2	-25.8	25	16.6
500	30	5,641	-17.8	-30.5	25	18.8
450	30	6,421	-23.1	-34.5	25	21.2
400	30	7,274	-28.9	-39.8	25	23.2
350	30	8,219	-35.4	-45.2	25	26.5
300	30	9,274	-42.7	-51.1	25	30.3
250	30	10,484	-50.3		25	30.6
200	29	11,920	-55.5		25	29.2
175	28	12,758	-57.0		26	25.8
150	28	13,728	-59.5		25	23.2
125	28	14,864	-61.5		26	20.9
100	26	16,245	-62.8		25	14.3
80	26	17,621	-62.5		25	9.0
70	26	18,446	-62.0		23	6.4
60	26	19,400	-61.8		25	4.8
50	25	20,533	-60.4		24	2.0
40	24	21,924	-59.6		26	1.0
30	24	23,731	-57.9		05	1.3
25	22	24,897	-56.7		05	2.6
20	22	26,317	-55.0		06	3.4
15	17	28,157	-53.0		04	1.0
10	8	30,805	-49.5			
7						

JOHNSTON IS., PACIFIC AREA 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	[illegible]	25.9	22.8	10	6.1
1000	30	111	24.7	21.8	10	6.7
950	30	560	21.4	19.4	10	7.3
900	30	1,028	18.6	15.4	10	6.8
850	30	1,518	16.1	10.9	10	5.5
800	30	2,033	14.3	6.6	11	4.4
750	30	2,577	12.0	2.7	12	3.5
700	30	3,152	9.1	-2.0	13	2.8
650	30	3,763	5.8	-6.2	15	2.2
600	30	4,415	2.6	-11.6	15	2.1
550	30	5,113	-1.4	-15.2	17	.7
500	30	5,866	-6.0	-20.5	27	1.1
450	30	6,684	-11.0	-26.6	28	2.2
400	30	7,578	-17.0	-30.9	28	4.4
350	30	8,569	-24.3	-38.5	28	7.2
300	30	9,671	-32.5	-44.2	27	11.0
250	30	10,930	-42.2		26	14.5
200	30	12,402	-53.9		26	19.2
175	30	13,247	-60.5		27	19.3
150	28	14,191	-67.9		27	17.9
125	26	15,275	-74.0		27	14.5
100	24	16,555	-80.1		27	7.3
80	24	17,818	-78.5		07	1.8
70	23	18,589	-74.2		09	4.2
60	23	19,499	-69.2		10	6.4
50	23	20,602	-64.9		10	8.5
40	23	21,970	-62.4		09	8.7
30	23	23,764	-57.4		08	5.9
25	23	24,925	-54.0		07	1.3
20	23	26,368	-51.2		30	4.2
15	20	28,254	-47.8		27	10.3
10	18	30,970	-41.0		27	20.6
7	9	33,627	-37.7			

KEY WEST, FL 1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	[illegible]	22.5	19.0	05	2.5
1000	30	143	22.1	18.5	05	3.8
950	30	588	19.3	15.7	08	3.9
900	30	1,052	16.9	10.4	10	2.8
850	30	1,538	14.7	6.5	13	1.2
800	30	2,049	12.4	.5	22	1.1
750	30	2,589	10.4	-4.5	24	2.5
700	30	3,161	7.7	-7.8	25	2.9
650	30	3,768	4.5	-10.7	25	4.0
600	30	4,415	.8	-14.6	26	6.0
550	30	5,109	-3.5	-18.7	26	7.4
500	30	5,856	-8.1	-23.8	25	8.5
450	30	6,666	-13.6	-27.2	26	10.7
400	29	7,551	-20.2	-33.3	26	12.9
350	29	8,530	-27.3	-39.2	26	15.7
300	29	9,618	-35.7	-46.2	26	18.6
250	29	10,860	-45.3		26	22.0
200	29	12,313	-56.6		26	25.3
175	29	13,148	-62.4		26	24.9
150	29	14,087	-67.8		26	23.4
125	29	15,172	-72.0		27	18.6
100	29	16,476	-74.6		26	11.6
80	27	17,779	-73.4		27	6.1
70	27	18,567	-69.6		28	2.6
60	27	19,493	-66.2		28	1.8
50	27	20,610	-62.4		23	.7
40	27	21,995	-60.5		32	.4
30	27	23,799	-57.5		01	1.5
25	27	24,957	-55.2		34	2.0
20	27	26,392	-52.0		30	2.6
15	26	28,270	-48.4		27	9.6
10	17	30,965	-43.2		27	18.2
7						

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

KING SALMON, AK

1003 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	15	-10.4	-14.3	05	2.3
1000	16	110	-6.5	-11.4	09	4.7
950	30	436	-6.8	-11.4	08	3.4
900	30	858	-7.2	-13.3	13	2.3
850	30	1,302	-9.0	-15.9	17	3.0
800	30	1,770	-11.1	-19.0	18	3.8
750	30	2,263	-13.6	-22.5	19	4.0
700	30	2,784	-16.7	-25.2	19	3.7
650	30	3,338	-20.1	-28.9	20	3.8
600	30	3,927	-23.8	-32.2	23	2.8
550	30	4,557	-28.2	-36.6	24	3.1
500	30	5,234	-32.8	-39.4	24	3.5
450	30	5,968	-37.7	-42.0	25	4.4
400	30	6,771	-43.3	-43.0	25	5.4
350	30	7,662	-48.2		25	6.0
300	30	8,668	-51.4		27	7.5
250	30	9,848	-52.5		26	7.5
200	30	11,293	-51.2		26	11.1
175	29	12,154	-50.8		25	10.8
150	29	13,161	-50.0		26	11.4
125	28	14,363	-50.2		26	10.8
100	27	15,828	-49.8		25	9.8
80	27	17,288	-49.5		26	9.2
70	27	18,163	-49.7		26	8.0
60	26	19,171	-49.8		25	6.6
50	26	20,363	-50.0		26	6.8
40	22	21,836	-49.7		26	4.8
30	19	23,730	-50.0		24	2.8
25	19	24,921	-49.9		27	2.5
20	18	26,381	-50.5		29	2.4
15	10	28,293	-54.1			
10						
7						

◆ KOROR, CAROLINE IS.

1007 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	30	28.5	24.8	29	.2
1000	30	90	27.5	24.8	29	.2
950	30	544	23.9	22.1	27	.6
900	30	1,017	20.9	18.2	29	.7
850	30	1,511	17.9	14.3	30	.8
800	30	2,029	15.6	10.3	03	.4
750	30	2,576	13.2	5.6	09	.6
700	30	3,154	10.2	2.0	09	1.7
650	30	3,767	6.9	-1.7	09	2.2
600	30	4,421	3.2	-5.0	09	2.3
550	30	5,122	-.6	-11.6	09	2.4
500	30	5,878	-4.9	-17.5	09	2.7
450	30	6,699	-9.7	-21.9	08	3.9
400	30	7,599	-15.2	-28.0	09	4.8
350	29	8,599	-22.1	-36.5	09	3.9
300	28	9,711	-30.5	-43.4	09	5.7
250	28	10,980	-40.7	-50.8	09	7.1
200	28	12,458	-53.3		10	7.9
175	28	13,305	-60.2		09	9.2
150	28	14,248	-68.1		09	10.8
125	28	15,323	-75.6		10	11.8
100	28	16,591	-82.3		09	9.6
80	28	17,837	-80.3		09	11.1
70	27	18,600	-75.6		09	12.8
60	27	19,505	-70.4		09	16.6
50	27	20,605	-63.9		09	19.0
40	25	21,993	-58.0		09	6.7
30	24	23,826	-52.8		27	4.2
25	24	25,008	-50.8		27	7.8
20	24	26,475	-47.2		26	10.2
15	23	28,398	-43.1		26	14.8
10	19	31,160	-38.9		27	15.4
7	8	33,572	-35.4			

KOTZEBUE, AK

1013 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	28	5	-15.5	-18.8	07	3.2
1000	23	135	-12.9	-19.2	09	4.2
950	28	496	-12.8	-19.0	09	4.0
900	28	909	-13.5	-20.1	08	3.9
850	28	1,343	-13.8	-20.8	08	3.7
800	28	1,803	-14.8	-23.0	08	4.2
750	28	2,290	-17.2	-25.9	08	4.1
700	28	2,804	-20.2	-30.2	08	3.8
650	27	3,348	-23.3	-32.9	08	2.7
600	27	3,930	-27.1	-36.3	07	2.2
550	27	4,552	-31.4	-39.8	11	1.1
500	27	5,220	-36.1	-42.4	17	1.7
450	27	5,944	-41.0	-44.5	17	1.2
400	27	6,735	-46.5	-49.5	21	.6
350	27	7,613	-51.8		24	1.4
300	27	8,599	-56.3		24	2.9
250	27	9,756	-56.4		23	4.7
200	27	11,177	-54.7		24	6.4
175	27	12,035	-53.4		24	6.8
150	27	13,029	-52.7		25	7.1
125	27	14,208	-52.1		24	8.8
100	26	15,654	-51.1		25	10.8
80	26	17,106	-50.9		24	12.3
70	26	17,977	-50.4		24	13.8
60	26	18,983	-50.2		24	14.7
50	26	20,175	-49.9		24	16.1
40	24	21,630	-49.4		24	16.8
30	23	23,516	-49.9		25	16.6
25	23	24,708	-50.1		25	17.7
20	22	26,158	-50.2		25	17.8
15	17	28,022	-49.6		26	17.0
10	8	30,663	-50.4			
7						

LAKE CHARLES, LA

1016 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	5	13.9	12.5	05	.8
1000	30	138	16.0	10.8	08	.6
950	30	575	15.4	9.8	20	1.9
900	30	1,032	13.1	6.4	24	3.1
850	30	1,511	10.3	2.9	25	4.2
800	30	2,014	8.5	-2.6	27	5.3
750	30	2,546	6.2	-7.3	27	6.6
700	30	3,108	3.2	-13.4	27	7.8
650	30	3,706	.2	-17.0	27	8.7
600	30	4,343	-3.3	-21.1	27	9.6
550	30	5,026	-7.6	-24.6	28	11.0
500	30	5,760	-12.8	-29.1	27	12.1
450	30	6,555	-18.2	-34.3	27	13.7
400	30	7,424	-24.8	-39.2	27	16.8
350	30	8,386	-31.3	-44.2	26	18.7
300	30	9,457	-39.1	-49.7	26	23.8
250	30	10,683	-48.2		26	27.6
200	30	12,123	-57.0		26	30.8
175	30	12,963	-59.8		26	29.9
150	30	13,918	-63.2		26	27.8
125	30	15,031	-66.4		26	24.1
100	30	16,373	-69.2		26	15.7
80	30	17,706	-68.8		26	12.3
70	30	18,507	-66.4		26	10.4
60	29	19,443	-64.8		26	9.6
50	28	20,565	-61.8		26	7.4
40	26	21,950	-60.4		26	6.5
30	24	23,747	-59.1		27	7.3
25	22	24,897	-57.6		27	5.8
20	21	26,310	-56.0		27	6.7
15	19	28,149	-52.7		28	9.8
10	10	30,808	-46.8			
7						

LANDER, WY

827 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	1,697	-3.3	-9.5	24	1.6
1000						
950						
900						
850						
800	30	1,964	-.3	-10.2	28	1.4
750	30	2,479	-2.3	-12.6	29	3.7
700	30	3,024	-5.6	-15.3	28	8.1
650	30	3,603	-8.4	-18.6	29	13.0
600	30	4,220	-11.5	-22.6	29	16.6
550	30	4,882	-15.9	-26.0	29	18.2
500	30	5,594	-21.0	-29.2	28	21.0
450	30	6,364	-26.0	-33.8	29	23.4
400	30	7,207	-32.1	-38.9	29	25.5
350	30	8,139	-38.8	-43.5	29	29.0
300	30	9,178	-46.0		30	31.7
250	30	10,372	-53.1		29	33.3
200	30	11,797	-56.6		29	31.7
175	30	12,644	-56.4		29	28.8
150	30	13,620	-58.0		29	28.0
125	30	14,767	-59.1		28	24.1
100	30	16,162	-59.5		28	16.5
80	28	17,551	-61.3		28	9.9
70	27	18,381	-61.1		28	7.0
60	27	19,338	-61.2		28	5.6
50	26	20,473	-60.4		28	4.2
40	23	21,871	-59.3		16	1.5
30	22	23,677	-57.7		07	1.8
25	22	24,830	-57.0		09	3.6
20	21	26,242	-55.4		09	4.9
15	18	28,095	-53.6		08	6.0
10						
7						

• LIHUE KAUAI, HI

1012 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	36	22.8	20.0	05	2.1
1000	30	144	23.1	20.0	07	2.8
950	30	590	19.9	17.5	09	4.8
900	30	1,055	16.8	14.1	09	4.5
850	30	1,541	13.6	8.2	10	4.5
800	30	2,051	12.2	2.1	10	4.0
750	30	2,591	10.6	-7.2	12	2.8
700	30	3,163	8.2	-12.4	13	2.5
650	30	3,772	5.8	-15.1	16	1.5
600	30	4,423	2.3	-18.3	23	2.0
550	30	5,120	-2.0	-20.8	23	1.9
500	30	5,870	-7.8	-24.7	24	2.5
450	30	6,682	-12.8	-29.3	26	3.6
400	30	7,569	-19.5	-35.0	27	8.1
350	30	8,551	-26.5	-41.7	27	8.4
300	30	9,643	-34.8	-47.9	27	11.8
250	30	10,891	-44.8		28	17.4
200	29	12,351	-54.8		27	21.9
175	29	13,195	-60.6		27	21.7
150	29	14,141	-66.1		27	18.8
125	29	15,231	-72.8		27	15.8
100	27	16,528	-76.1		26	11.3
80	25	17,819	-75.0		25	4.4
70	24	18,600	-71.5		20	1.7
60	24	19,520	-67.7		12	1.4
50	23	20,628	-64.3		08	3.7
40	23	21,999	-62.5		08	4.0
30	22	23,790	-58.3		06	3.8
25	22	24,943	-56.1		03	2.0
20	22	26,371	-54.0		30	3.4
15	21	28,231	-49.9		27	8.1
10	16	30,914	-43.1		27	22.7
7						

LITTLE ROCK, AR

997 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	79	8.7	5.1	02	.3
1000	11	210	4.0	-4.1	36	2.2
950	30	575	8.9	2.1	27	1.0
900	30	1,024	9.0	2.6	25	4.0
850	30	1,497	7.3	.1	25	5.8
800	30	1,994	5.0	-4.8	26	6.4
750	30	2,519	2.4	-8.3	27	7.4
700	30	3,074	-.2	-11.7	27	8.8
650	30	3,664	-2.9	-16.8	27	9.4
600	30	4,294	-6.5	-21.0	27	11.8
550	30	4,969	-10.7	-25.8	27	13.0
500	30	5,695	-15.7	-28.7	27	14.8
450	30	6,482	-21.2	-33.8	27	15.9
400	30	7,340	-27.4	-37.7	27	17.9
350	30	8,290	-34.7	-45.3	26	19.9
300	30	9,346	-42.7	-49.1	26	21.6
250	30	10,554	-51.0		26	24.5
200	30	11,983	-57.4		26	27.6
175	30	12,822	-59.4		27	27.5
150	30	13,784	-61.4		27	22.6
125	29	14,905	-63.9		27	21.0
100	29	16,265	-66.5		27	15.5
80	29	17,616	-66.2		27	11.7
70	29	18,427	-65.3		26	9.7
60	25	19,372	-63.8		27	7.7
50	25	20,495	-62.3		27	8.8
40	23	21,877	-60.8		27	8.3
30	23	23,676	-58.7		26	5.2
25	20	24,835	-57.6		28	8.9
20	18	26,253	-55.3		27	3.9
15	16	28,096	-53.0		28	8.8
10	8	30,740	-46.9			
7						

LONGVIEW, TX

1002 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	124	11.5	8.1	16	.3
1000	18	172	10.9	8.4	03	.8
950	30	571	12.2	6.2	22	2.8
900	30	1,024	11.1	5.2	24	5.4
850	30	1,500	8.9	1.1	25	6.2
800	30	2,000	7.0	-4.2	26	6.8
750	30	2,529	4.6	-9.9	27	6.8
700	30	3,088	1.8	-13.4	27	7.8
650	30	3,682	-1.3	-17.8	27	8.3
600	30	4,317	-4.6	-21.0	27	9.1
550	30	4,996	-9.2	-25.3	27	11.2
500	30	5,726	-14.2	-28.9	27	13.2
450	30	6,516	-19.8	-34.9	27	15.3
400	30	7,380	-26.1	-40.5	27	17.5
350	30	8,335	-33.0	-46.3	27	20.0
300	30	9,398	-41.3	-50.2	27	21.4
250	30	10,615	-49.5		27	24.8
200	30	12,049	-57.4		26	27.2
175	30	12,888	-59.6		27	27.7
150	30	13,847	-62.2		27	24.6
125	29	14,964	-65.6		27	22.1
100	29	16,313	-68.0		27	17.7
80	28	17,651	-67.4		27	11.8
70	28	18,457	-66.4		27	9.0
60	28	19,395	-64.4		26	8.4
50	27	20,516	-62.1		27	8.2
40	27	21,900	-60.7		27	7.4
30	27	23,698	-58.9		26	7.0
25	26	24,848	-57.8		27	6.8
20	26	26,261	-56.2		27	5.6
15	25	28,106	-53.3		28	7.1
10	19	30,768	-47.1		28	10.1
7	6	33,137	-42.5			

MCGRATH, AK

998 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	103	-20.8	-24.2	01	1.0
1000	13	180	-16.1	-18.4	06	1.1
950	30	475	-15.1	-18.9	07	3.5
900	30	[illegible]	-12.7	-18.0	09	4.5
850	30	1,323	-11.8	-17.5	10	3.4
800	30	1,788	-12.0	-20.1	12	2.8
750	30	2,280	-14.5	-22.7	14	3.6
700	30	2,800	-17.7	-25.7	14	3.1
650	30	3,351	-21.1	-28.8	15	3.1
600	30	3,937	-25.0	-32.9	16	2.9
550	30	4,564	-29.4	-36.6	17	2.7
500	30	5,238	-34.2	-38.5	20	2.7
450	30	5,967	-39.2	-41.5	21	2.8
400	30	6,766	-44.2	-43.9	22	3.4
350	30	7,654	-49.5		23	4.3
300	29	8,634	-53.9		25	6.2
250	29	9,806	-53.8		25	7.0
200	29	11,242	-53.0		25	7.7
175	29	12,106	-52.1		25	8.2
150	29	13,107	-50.8		26	8.1
125	29	14,296	-50.3		25	9.3
100	29	15,755	-49.4		25	9.7
80	29	17,219	-49.0		25	10.2
70	29	18,096	-49.0		25	9.9
60	29	19,107	-49.5		25	9.9
50	29	20,302	-49.6		25	9.7
40	29	21,763	-49.8		25	10.2
30	26	23,648	-49.4		26	8.7
25	25	24,844	-49.7		26	8.3
20	25	26,305	-49.8		26	7.6
15	21	28,189	-50.3		26	9.7
10	11	30,816	-51.2		27	10.7
7						

◆ MAJURO, MARSHALL IS.

1010 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	3	29.2	24.8	08	2.5
1000	30	88	27.8	23.6	08	3.1
950	30	543	24.2	21.8	08	4.5
900	30	1,016	21.4	18.2	09	4.4
850	30	1,511	18.7	14.7	09	4.2
800	30	2,031	16.4	11.2	09	4.4
750	30	2,579	13.8	7.8	09	4.8
700	30	3,158	10.8	3.8	09	4.4
650	30	3,773	7.5	-.2	09	4.5
600	30	4,429	3.7	-5.3	09	4.9
550	30	5,131	-.2	-9.1	09	5.2
500	30	5,888	-4.5	-14.7	08	5.3
450	30	6,711	-9.3	-18.8	08	5.7
400	30	7,613	-14.7	-24.8	09	4.5
350	30	8,615	-21.3	-30.8	09	3.2
300	30	9,731	-29.4	-38.8	12	1.8
250	30	11,005	-39.9	-48.7	21	.8
200	30	12,489	-52.5		21	1.1
175	30	13,338	-59.3		23	1.7
150	30	14,286	-67.2		25	1.6
125	30	15,366	-74.7		19	1.6
100	30	16,636	-82.3		10	3.5
80	29	17,889	-78.9		08	10.2
70	29	18,659	-73.6		08	12.5
60	29	19,571	-69.0		09	16.1
50	29	20,675	-63.6		10	17.6
40	29	22,065	-58.3		09	6.9
30	29	23,898	-52.7		28	4.0
25	29	25,085	-49.5		27	8.1
20	28	26,559	-46.1		27	12.7
15	27	28,488	-43.0		27	15.0
10	11	31,269	-37.6			
7						

• MEDFORD, OR

974 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	401	3.7	1.9	16	.2
1000						
950	30	600	4.8	2.7	21	.7
900	30	1,042	5.5	.6	21	2.8
850	30	1,506	2.4	-3.8	24	6.0
800	30	1,995	.5	-6.6	26	8.6
750	30	2,511	-1.4	-12.3	27	11.3
700	30	3,059	-3.8	-15.0	27	14.4
650	30	3,642	-6.8	-18.9	28	17.1
600	30	4,264	-9.7	-21.9	28	19.3
550	30	4,931	-13.8	-24.7	28	21.8
500	30	5,648	-18.3	-29.2	28	24.8
450	30	6,428	-23.1	-32.8	28	27.8
400	29	7,278	-29.4	-39.9	28	31.2
350	29	8,221	-35.6	-43.9	28	33.3
300	29	9,275	-42.8		29	35.2
250	29	10,482	-51.0		29	37.2
200	28	11,912	-57.6		29	37.8
175	28	12,752	-58.9		29	34.3
150	28	13,717	-60.2		29	32.7
125	28	14,851	-61.5		29	27.2
100	27	16,225	-62.8		29	20.3
80	26	17,601	-62.9		29	14.0
70	26	18,423	-63.1		29	10.8
60	26	19,373	-62.5		29	8.0
50	25	20,500	-61.8		30	4.5
40	25	21,885	-60.8		32	2.0
30	23	23,693	-58.2		05	1.7
25	21	24,849	-56.8		06	2.0
20	18	26,275	-55.3		08	5.0
15	19	28,128	-52.8		08	4.8
10	6	30,802	-48.7			
7						

MERIDA, MEXICO

1014 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	11	19.4	18.8	10	.6
1000	30	127	22.6	19.8	09	2.8
950	30	574	21.0	16.8	10	4.8
900	30	1,041	18.3	12.8	10	3.8
850	30	1,529	15.3	9.7	12	2.2
800	30	2,042	13.1	4.4	17	1.6
750	30	2,583	10.9	-2.8	20	2.0
700	30	3,156	8.3	-6.8	23	2.8
650	30	3,764	4.7	-9.7	24	2.8
600	30	4,412	1.3	-14.8	25	3.7
550	30	5,108	-2.4	-20.8	26	5.3
500	30	5,857	-7.5	-24.0	25	6.8
450	30	6,669	-12.6	-28.9	25	7.2
400	30	7,558	-19.0	-35.0	25	9.7
350	30	8,541	-26.1	-40.7	26	12.1
300	30	9,635	-34.6	-47.0	25	15.9
250	30	10,883	-44.5		25	18.1
200	29	12,340	-55.4		26	20.0
175	29	13,180	-61.4		25	20.6
150	29	14,122	-67.9		25	20.0
125	29	15,204	-73.1		26	18.0
100	28	16,503	-75.6		26	12.1
80	26	17,795	-74.2		25	6.0
70	26	18,581	-70.2		24	2.0
60	26	19,506	-66.4		08	1.8
50	25	20,616	-63.2		09	2.8
40	25	21,995	-61.0		09	4.5
30	25	23,800	-56.8		08	3.3
25	23	24,964	-54.2		07	2.6
20	22	26,403	-51.5		32	1.4
15	21	28,285	-47.0		28	7.1
10	10	30,989	-42.9			
7						

MIDLAND, TX

916 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	874	6.3	-1.7	28	.9
1000						
950						
900	30	1,018	10.3	.6	23	2.1
850	30	1,496	11.9	-4.2	26	4.3
800	30	2,002	10.2	-7.5	29	5.3
750	30	2,535	6.9	-10.0	29	6.8
700	30	3,098	3.5	-13.5	28	7.8
650	30	3,696	-.1	-16.7	28	9.7
600	30	4,332	-3.6	-20.8	28	10.3
550	30	5,014	-8.3	-24.8	28	12.5
500	30	5,746	-13.2	-28.8	28	13.8
450	30	6,540	-18.8	-32.7	28	15.0
400	30	7,407	-25.3	-38.0	28	16.8
350	30	8,364	-32.8	-44.5	28	18.3
300	30	9,428	-40.9	-51.1	29	20.0
250	29	10,652	-49.1		28	21.6
200	29	12,092	-56.3		28	24.2
175	29	12,934	-59.4		28	24.8
150	29	13,893	-62.4		28	22.6
125	29	15,010	-65.3		27	20.1
100	29	16,357	-68.7		28	15.8
80	28	17,692	-68.7		28	11.7
70	28	18,495	-67.3		28	8.8
60	27	19,432	-64.4		26	7.0
50	27	20,554	-61.5		26	7.2
40	27	21,942	-60.2		26	6.3
30	27	23,745	-58.3		27	7.0
25	27	24,895	-57.4		26	6.0
20	27	26,309	-56.0		27	6.9
15	26	28,148	-53.9		28	8.2
10	24	30,789	-48.6		28	11.5
7	10	33,186	-43.9			

MONTERREY, MEXICO

964 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	423	13.0	10.2	29	1.9
1000						
950	30	575	15.8	11.2	30	1.1
900	30	1,035	15.6	7.6	14	.6
850	30	1,519	14.2	2.6	19	1.4
800	30	2,030	13.1	-2.4	25	2.2
750	30	2,570	10.6	-6.0	28	4.6
700	30	3,140	6.5	-9.7	28	6.4
650	30	3,744	2.7	-13.0	28	7.3
600	30	4,387	-1.5	-18.3	27	7.0
550	30	5,074	-5.6	-23.3	27	7.8
500	30	5,815	-10.4	-27.7	27	9.6
450	30	6,618	-16.0	-32.4	27	12.4
400	30	7,493	-22.8	-38.2	27	14.6
350	30	8,462	-30.0	-44.0	27	17.1
300	30	9,538	-38.3	-50.4	26	19.4
250	30	10,767	-47.6		26	22.5
200	30	12,210	-56.7		26	25.7
175	29	13,049	-61.1		26	25.5
150	29	13,996	-65.7		26	22.5
125	28	15,098	-69.8		26	19.3
100	28	16,416	-72.8		26	12.8
80	28	17,729	-71.1		27	8.2
70	28	18,526	-68.0		26	6.1
60	28	19,456	-65.9		25	5.5
50	28	20,571	-62.8		25	4.9
40	28	21,955	-60.5		25	3.4
30	27	23,748	-59.2		27	2.1
25	25	24,895	-56.8		28	2.1
20	23	26,326	-53.7		27	3.9
15	21	28,195	-50.5		27	8.2
10	10	30,877	-42.9			
7						

MONETT, MO

965 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind	
					Direction tens of deg	Speed m p s
SFC	30	438	6.3	2.8	11	.9
1000						
950	30	566	7.0	1.5	17	.4
900	30	1,011	7.1	.3	26	4.1
850	30	1,482	6.3	-.6	27	6.2
800	30	1,977	3.7	-4.4	28	7.3
750	30	2,500	1.6	-8.4	27	8.8
700	30	3,054	-1.3	-11.8	27	10.6
650	30	3,642	-4.4	-16.4	27	12.2
600	30	4,269	-7.8	-20.7	27	12.9
550	30	4,941	-11.7	-24.3	27	14.0
500	30	5,664	-16.6	-29.8	27	16.7
450	30	6,448	-22.2	-34.0	27	18.5
400	30	7,303	-28.5	-39.6	27	19.9
350	30	8,248	-35.7	-45.2	26	21.7
300	29	9,300	-43.1	-51.8	26	26.0
250	29	10,507	-51.9		26	29.4
200	29	11,939	-56.1		26	29.0
175	28	12,785	-58.6		27	26.1
150	28	13,752	-60.0		27	24.2
125	26	14,879	-61.8		27	21.4
100	25	16,254	-64.7		27	15.6
80	24	17,620	-64.4		27	9.9
70	23	18,437	-63.7		27	7.7
60	22	19,387	-62.5		26	6.1
50	22	20,516	-61.4		27	5.0
40	22	21,903	-60.3		27	4.1
30	21	23,705	-59.0		27	3.4
25	21	24,856	-57.4		28	3.4
20	19	26,276	-55.8		26	2.4
15	15	28,120	-53.8		32	2.6
10	8	30,776	-48.5			
7	9	33,192	-43.9			

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

NASHVILLE, TN
997 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	180	8.8	5.2	20	.9
1000	9	212	2.7	-5.0		
950	30	579	8.5	2.2	19	4.0
900	30	1,026	7.5	-.1	22	6.4
850	30	1,496	5.7	-2.7	24	7.1
800	30	1,991	3.8	-5.6	25	7.5
750	30	2,514	1.6	-8.1	26	8.6
700	30	3,067	-1.4	-11.2	25	10.0
650	30	3,655	-4.6	-15.0	25	11.3
600	30	4,281	-8.1	-17.7	25	13.0
550	30	4,952	-11.9	-23.4	26	14.2
500	30	5,675	-16.6	-28.4	26	16.2
450	30	6,460	-21.4	-33.7	26	18.4
400	30	7,318	-27.4	-38.6	26	18.9
350	30	8,269	-34.4	-43.7	26	21.4
300	30	9,326	-42.2	-48.1	26	23.8
250	30	10,536	-51.0		25	26.4
200	30	11,967	-56.1		25	28.8
175	30	12,813	-58.0		25	27.6
150	30	13,778	-60.8		26	23.0
125	30	14,905	-63.2		25	19.9
100	30	16,269	-65.0		26	16.1
80	30	17,627	-65.3		26	11.5
70	30	18,442	-64.5		26	8.2
60	29	19,385	-63.3		26	6.9
50	29	20,509	-62.0		27	5.6
40	28	21,895	-60.4		27	4.1
30	26	23,695	-58.2		28	3.6
25	26	24,846	-57.1		28	3.8
20	26	26,263	-55.6		28	4.8
15	25	28,101	-53.4		29	2.0
10	21	30,735	-49.3		28	6.6
7	10	33,057	-45.4			

• NOME, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	29	5	-12.0	-17.3	05	2.9
1000	22	125	-8.1	-16.8	07	3.9
950	29	480	-10.2	-17.4	09	4.3
900	29	896	-11.2	-19.0	08	3.9
850	29	1,333	-12.5	-21.5	07	4.1
800	29	1,795	-14.5	-23.4	07	4.1
750	29	2,282	-16.2	-27.3	07	3.8
700	29	2,799	-18.8	-30.2	07	3.7
650	29	3,348	-21.7	-32.7	06	3.5
600	29	3,933	-25.5	-36.0	06	2.1
550	29	4,558	-29.7	-39.9	06	.8
500	29	5,232	-34.4	-42.8	06	.4
450	29	5,961	-39.3	-43.3	36	.2
400	29	6,758	-44.7	-46.8	31	1.4
350	29	7,643	-50.4		31	2.0
300	29	8,635	-55.1		29	2.8
250	29	9,795	-56.1		24	4.1
200	28	11,226	-54.6		25	4.9
175	28	12,084	-53.3		25	5.3
150	28	13,078	-52.2		25	7.2
125	28	14,259	-51.8		24	7.7
100	28	15,709	-51.0		24	8.7
80	28	17,164	-50.6		25	10.8
70	28	18,036	-50.0		25	11.7
60	27	19,043	-49.6		24	12.1
50	27	20,239	-49.5		25	12.7
40	25	21,711	-49.5		25	12.0
30	23	23,588	-49.6		25	12.8
25	23	24,782	-49.8		24	12.9
20	21	26,222	-50.2		25	12.5
15	20	28,093	-51.1		25	13.1
10	8	30,738	-53.4			
7						

NORTH PLATTE, NE
917 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	847	-1.8	-5.6	30	.4
1000						
950						
900	30	996	1.8	-4.2	28	1.5
850	30	1,458	2.6	-6.5	29	4.5
800	30	1,948	2.0	-9.1	30	6.9
750	30	2,466	-.6	-11.4	30	9.5
700	30	3,015	-3.7	-14.1	29	11.2
650	30	3,596	-7.5	-17.7	29	12.9
600	30	4,215	-11.2	-21.0	29	14.5
550	30	4,878	-15.2	-24.0	29	15.6
500	30	5,591	-20.1	-29.7	28	17.0
450	30	6,364	-25.4	-35.7	28	19.5
400	30	7,209	-31.4	-40.8	29	22.4
350	29	8,145	-38.0	-45.1	29	23.6
300	29	9,186	-45.9		28	22.6
250	29	10,382	-52.4		28	23.9
200	29	11,814	-54.9		28	20.7
175	29	12,667	-55.6		28	20.1
150	28	13,648	-57.1		27	18.4
125	28	14,797	-59.0		28	17.1
100	28	16,188	-61.4		28	11.7
80	27	17,577	-61.9		27	7.7
70	27	18,403	-61.8		27	5.8
60	27	19,358	-61.5		27	4.2
50	26	20,493	-60.7		27	2.9
40	26	21,885	-59.5		27	.8
30	26	23,689	-58.2		06	1.1
25	26	24,840	-57.3		08	1.4
20	24	26,254	-55.9		07	3.1
15	22	28,097	-53.9		08	3.2
10	12	30,725	-50.7			
7						

OAKLAND, CA
1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p.s
SFC	29	6	10.0	7.8	12	.1
1000	29	166	12.3	6.2	36	.5
950	29	596	12.4	2.4	35	2.5
900	29	1,049	11.8	-3.6	34	4.5
850	29	1,526	10.5	-5.9	32	5.8
800	29	2,029	8.2	-8.0	31	6.3
750	29	2,560	5.6	-11.1	31	7.8
700	29	3,120	2.2	-13.4	30	10.2
650	29	3,715	-.9	-16.8	30	12.0
600	29	4,350	-4.4	-21.0	30	14.7
550	29	5,030	-8.4	-24.8	29	16.0
500	29	5,762	-13.9	-27.3	29	17.6
450	29	6,554	-19.5	-31.8	29	18.2
400	28	7,423	-25.6	-37.1	29	20.0
350	28	8,380	-32.7	-43.2	29	22.6
300	28	9,444	-41.0	-47.9	29	23.8
250	28	10,659	-50.3		29	27.9
200	28	12,085	-58.6		30	27.9
175	28	12,920	-60.7		30	27.9
150	28	13,875	-62.3		30	26.3
125	26	15,013	-65.1		30	21.2
100	26	16,365	-67.6		30	16.9
80	25	17,704	-67.6		30	12.2
70	24	18,508	-67.1		31	8.7
60	24	19,441	-65.9		30	6.4
50	23	20,555	-64.3		32	4.3
40	21	21,930	-62.4		32	3.7
30	21	23,717	-59.8		36	1.5
25	20	24,861	-57.9		35	1.5
20	20	26,276	-55.8		36	.6
15	18	28,108	-54.1		01	1.1
10	9	30,721	-50.1			
7						

OMAHA, NE
968 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	29	403	1.1	-1.9	27	1.0
1000						
950	28	560	1.6	-3.5	26	1.6
900	29	991	2.5	-5.7	27	4.3
850	29	1,452	1.9	-8.2	28	6.1
800	29	1,940	.3	-11.7	28	7.3
750	29	2,456	-1.9	-14.8	28	8.9
700	29	3,002	-4.7	-16.6	28	10.2
650	29	3,582	-7.6	-20.7	29	12.1
600	29	4,201	-10.8	-23.9	28	14.5
550	29	4,865	-15.0	-26.8	27	15.6
500	29	5,579	-20.1	-31.0	27	16.8
450	29	6,352	-25.5	-37.4	28	18.5
400	29	7,196	-31.6	-42.8	27	21.0
350	29	8,131	-38.2	-44.7	27	22.1
300	29	9,172	-45.5		27	24.5
250	29	10,371	-51.7		27	25.4
200	29	11,806	-54.8		27	25.2
175	29	12,658	-55.8		27	24.7
150	29	13,637	-56.5		27	21.7
125	29	14,788	-58.9		27	18.4
100	29	16,180	-60.8		28	14.2
80	28	17,569	-61.6		27	9.6
70	28	18,398	-61.2		27	7.3
60	28	19,355	-61.1		27	6.1
50	28	20,490	-60.6		27	3.7
40	26	21,886	-59.4		27	2.4
30	26	23,692	-58.4		34	.9
25	26	24,843	-56.8		02	1.5
20	25	26,259	-55.9		06	2.1
15	20	28,104	-54.5		09	1.4
10	8	30,752	-51.1			
7						

PAGO PAGO, AMERICAN SAMOA
• 1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	25	5	28.3	23.6	11	4.7
1000	25	92	26.2	22.3	12	5.3
950	25	544	22.5	20.4	11	6.2
900	25	1,013	19.5	17.6	10	5.7
850	25	1,505	17.2	13.5	10	4.2
800	25	2,022	15.5	8.3	08	2.0
750	25	2,569	13.2	4.3	02	1.0
700	25	3,146	10.1	.8	34	2.1
650	25	3,760	6.6	-2.4	31	2.0
600	25	4,413	3.0	-6.7	29	3.0
550	25	5,113	-.7	-12.2	28	3.1
500	25	5,869	-4.9	-17.7	28	3.4
450	25	6,691	-9.6	-21.7	28	3.6
400	25	7,591	-15.1	-28.1	28	6.2
350	25	8,591	-21.8	-34.4	28	7.1
300	25	9,705	-30.0	-42.7	29	8.2
250	25	10,976	-40.4	-50.7	28	8.7
200	25	12,457	-52.6		27	10.8
175	25	13,306	-59.6		26	12.2
150	25	14,253	-67.3		26	12.0
125	25	15,332	-75.0		26	11.3
100	25	16,604	-81.0		27	5.8
80	25	17,856	-79.5		09	2.7
70	25	18,628	-72.8		09	7.5
60	25	19,542	-68.2		09	11.0
50	25	20,653	-63.2		09	14.1
40	25	22,034	-60.5		08	14.7
30	25	23,844	-56.1		08	10.7
25	25	25,013	-52.3		09	6.9
20	25	26,471	-47.9		07	2.9
15	25	28,385	-44.0		33	2.1
10	19	31,147	-38.6		27	3.1
7						

• PEORIA, IL
993 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	200	2.9	-.5	22	.4
1000	8	243	-4.3	-10.6		
950	30	557	3.5	-1.0	24	2.2
900	30	996	2.9	-2.8	25	4.8
850	30	1,458	1.8	-5.8	27	6.0
800	30	1,946	.0	-9.3	27	7.5
750	30	2,461	-2.1	-10.8	27	9.3
700	30	3,007	-4.5	-14.4	27	11.3
650	30	3,588	-7.6	-16.8	26	12.8
600	30	4,207	-10.9	-21.8	27	14.4
550	30	4,870	-14.8	-26.1	27	16.2
500	30	5,586	-19.3	-30.8	27	18.1
450	30	6,361	-24.4	-35.7	27	19.8
400	30	7,208	-30.8	-41.8	26	22.8
350	30	8,147	-37.0	-47.8	26	25.6
300	30	9,193	-44.4	-53.2	26	28.7
250	30	10,394	-52.1		26	29.5
200	30	11,825	-55.0		26	28.9
175	30	12,676	-56.4		26	24.3
150	29	13,656	-58.6		26	21.0
125	29	14,797	-60.3		26	19.3
100	28	16,182	-62.5		26	14.2
80	28	17,559	-62.5		27	10.3
70	27	18,385	-62.2		27	8.5
60	26	19,331	-61.8		27	6.3
50	26	20,462	-61.1		26	3.9
40	25	21,850	-60.4		27	3.3
30	23	23,652	-58.7		27	1.8
25	19	24,805	-57.5		29	1.5
20	17	26,221	-56.8		33	.7
15	14	28,072	-53.4		07	2.8
10	11	30,730	-50.7		07	3.8
7	5	33,104	-48.2			

• PITTSBURGH, PA
976 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	359	5.4	1.8	20	1.1
1000						
950	30	576	5.5	2.2	21	3.0
900	30	1,018	3.9	.6	23	6.5
850	30	1,482	2.5	-2.1	25	8.2
800	30	1,971	.3	-5.0	25	9.3
750	30	2,487	-2.0	-7.7	26	10.9
700	30	3,033	-4.5	-11.4	26	11.7
650	30	3,614	-7.2	-15.6	26	12.5
600	30	4,234	-10.4	-20.8	26	14.5
550	30	4,900	-14.3	-25.7	26	16.0
500	30	5,616	-18.9	-29.9	26	18.0
450	30	6,393	-24.0	-34.9	26	19.9
400	30	7,243	-29.7	-39.2	26	21.8
350	30	8,185	-36.0	-43.4	25	24.1
300	30	9,237	-43.0	-48.6	25	27.5
250	30	10,447	-50.2		25	30.9
200	30	11,885	-55.4		26	30.1
175	30	12,734	-56.8		26	27.9
150	29	13,697	-59.1		25	25.4
125	29	14,834	-61.1		25	21.8
100	28	16,208	-62.7		26	17.3
80	25	17,583	-62.7		25	10.4
70	24	18,413	-62.5		26	8.3
60	24	19,368	-61.0		26	6.9
50	23	20,509	-60.3		27	4.2
40	22	21,900	-60.2		26	2.2
30	21	23,703	-58.5		05	1.2
25	21	24,854	-56.9		08	2.1
20	20	26,269	-55.2		06	2.5
15	14	28,129	-53.5		06	4.7
10	7	30,817	-48.1			
7						

PONAPE, CAROLINE IS.
• 1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p.s
SFC	30	39	28.4	24.9	07	1.4
1000	30	78	27.2	23.7	07	1.6
950	30	531	23.7	21.4	08	2.8
900	30	1,004	20.8	18.1	10	3.1
850	30	1,497	17.9	14.9	09	3.7
800	30	2,015	15.7	11.0	09	4.2
750	30	2,562	13.2	7.0	09	4.3
700	30	3,140	10.1	2.9	09	5.5
650	30	3,753	6.7	-.3	09	5.6
600	30	4,407	2.9	-3.7	10	5.4
550	30	5,107	-.9	-7.3	10	5.1
500	30	5,863	-4.9	-13.5	10	4.9
450	29	6,685	-9.8	-18.6	09	4.9
400	29	7,585	-15.4	-25.2	09	5.3
350	29	8,584	-22.0	-31.9	09	4.6
300	29	9,697	-30.2	-40.1	09	4.3
250	29	10,967	-40.4	-49.6	09	5.3
200	29	12,447	-55.1		09	5.4
175	29	13,294	-60.3		09	6.7
150	29	14,236	-68.4		09	6.1
125	29	15,309	-76.0		08	6.6
100	29	16,576	-82.5		08	8.7
80	29	17,822	-80.8		08	11.1
70	29	18,586	-74.7		09	13.7
60	28	19,494	-70.2		09	17.5
50	28	20,594	-64.0		09	17.9
40	28	21,980	-58.7		09	7.0
30	25	23,812	-52.6		27	4.7
25	25	24,995	-50.1		27	9.3
20	25	26,464	-46.9		26	12.4
15	22	28,376	-43.7		26	14.4
10	17	31,128	-38.2		26	12.4
7						

PORTLAND, ME
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	20	2.8	-.1	35	.5
1000	26	190	3.9	-.2	32	.9
950	30	580	3.0	-2.3	25	2.4
900	30	1,017	1.4	-4.1	25	4.2
850	30	1,476	.5	-6.6	26	5.4
800	30	1,962	-.7	-10.9	25	7.6
750	30	2,477	-2.2	-12.2	25	9.8
700	30	3,022	-5.2	-13.5	25	12.2
650	30	3,602	-7.9	-17.6	25	13.4
600	30	4,220	-11.4	-21.9	25	14.2
550	30	4,882	-15.8	-25.8	25	15.6
500	30	5,594	-20.3	-30.1	26	17.2
450	30	6,366	-25.7	-35.9	26	18.6
400	30	7,210	-31.5	-39.8	26	21.2
350	30	8,146	-37.5	-45.4	26	23.8
300	30	9,196	-43.8		26	26.8
250	30	10,400	-50.4		26	28.2
200	30	11,840	-55.0		27	24.5
175	30	12,689	-56.5		26	21.4
150	30	13,664	-58.2		26	19.3
125	30	14,808	-59.8		26	15.8
100	30	16,197	-61.4		26	10.6
80	30	17,580	-61.7		26	7.6
70	30	18,408	-61.2		25	4.9
60	30	19,366	-60.9		26	3.2
50	30	20,503	-59.8		26	2.3
40	29	21,900	-59.2		29	.3
30	26	23,708	-58.3		05	1.3
25	25	24,850	-57.1		36	1.6
20	24	26,274	-56.1		02	2.3
15	19	28,118	-54.2		03	3.2
10	12	30,681	-51.4		29	10.3
7						

• QUILLAYUTE, WA
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	[illegible]	[illegible]	2.5	15	.9
1000	27	144	5.9	2.5	18	1.3
950	30	552	3.9	.2	20	4.0
900	30	990	1.1	-2.3	22	6.2
850	30	1,447	-1.6	-5.9	24	7.6
800	30	1,928	-4.1	-11.7	24	9.0
750	30	2,435	-6.8	-16.4	25	10.9
700	30	2,970	-10.1	-19.5	26	12.7
650	30	3,538	-13.4	-24.2	26	14.2
600	30	4,143	-17.0	-28.5	27	16.6
550	30	4,790	-21.1	-31.5	27	19.4
500	30	5,489	-25.2	-35.2	27	23.6
450	30	6,248	-29.3	-38.0	27	28.2
400	30	7,080	-34.6	-41.9	27	32.2
350	30	8,004	-40.8	-42.5	28	35.1
300	30	9,037	-46.7		28	36.9
250	30	10,231	-52.1		28	35.3
200	30	11,666	-54.4		28	29.4
175	29	12,512	-54.8		28	26.0
150	29	13,496	-55.6		28	23.1
125	29	14,656	-56.1		27	21.7
100	29	16,071	-56.8		27	17.6
80	28	17,482	-57.7		27	11.4
70	28	18,323	-58.8		27	10.8
60	26	19,291	-58.7		28	7.8
50	25	20,439	-58.7		27	4.6
40	23	21,845	-57.1		32	2.4
30	22	23,665	-56.1		06	1.8
25	22	24,826	-55.5		08	4.6
20	20	26,248	-54.5		08	6.6
15	14	28,108	-53.8		06	7.6
10						
7						

RAPID CITY, SD
903 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	966	-2.5	-7.2	33	3.3
1000						
950						
900	20	1,021	-1.5	-7.5	31	2.4
850	30	1,453	.7	-8.0	31	8.3
800	30	1,939	-.5	-10.4	31	10.9
750	30	2,453	-3.4	-12.7	31	11.1
700	30	2,995	-6.8	-16.1	30	11.4
650	30	3,570	-10.3	-20.8	29	12.4
600	30	4,182	-14.3	-24.3	29	14.1
550	30	4,837	-18.4	-29.2	29	15.8
500	30	5,542	-23.2	-33.8	29	18.4
450	30	6,305	-28.4	-37.5	28	19.6
400	30	7,140	-34.0	-41.6	28	23.5
350	30	8,066	-40.4	-44.0	29	26.8
300	30	9,098	-47.3		28	28.5
250	30	10,289	-52.6		28	28.0
200	30	11,722	-54.1		28	25.6
175	30	12,579	-54.1		28	23.2
150	30	13,566	-55.1		28	21.5
125	30	14,725	-57.2		28	18.1
100	28	16,127	-59.2		28	15.2
80	26	17,529	-59.5		28	10.4
70	25	18,364	-60.5		28	7.8
60	24	19,328	-60.4		28	5.3
50	23	20,466	-59.4		28	3.4
40	22	21,871	-59.0		29	2.1
30	22	23,680	-57.7		07	2.9
25	20	24,847	-56.8		08	4.3
20	19	26,273	-55.3		08	6.0
15	16	28,128	-53.5		07	6.6
10						
7						

ST CLOUD, MN
977 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	316	-3.8	-6.3	33	.5
1000						
950	30	539	-2.7	-5.7	27	1.8
900	30	968	-2.4	-8.1	28	4.8
850	30	1,422	-3.1	-9.8	29	5.8
800	30	1,901	-4.5	-12.0	28	7.0
750	30	2,408	-6.2	-16.1	27	8.1
700	30	2,947	-7.8	-18.5	27	9.7
650	30	3,521	-10.4	-21.8	27	10.4
600	30	4,133	-14.3	-24.5	27	11.2
550	30	4,787	-18.8	-27.4	27	13.0
500	30	5,490	-23.6	-31.8	27	15.1
450	30	6,253	-28.8	-37.1	27	16.2
400	30	7,086	-34.7	-42.9	27	18.5
350	30	8,008	-41.1	-45.8	27	20.5
300	30	9,038	-47.4		27	22.9
250	30	10,231	-51.8		26	23.5
200	30	11,671	-53.2		26	24.4
175	30	12,532	-53.2		27	21.2
150	30	13,523	-54.2		27	20.2
125	30	14,689	-56.0		27	18.0
100	28	16,100	-57.8		27	16.3
80	28	17,505	-58.7		27	9.6
70	26	18,352	-58.8		27	7.9
60	26	19,320	-58.8		27	6.6
50	25	20,471	-58.4		27	3.4
40	24	21,881	-58.0		24	.5
30	22	23,711	-57.2		08	2.7
25	22	24,865	-56.7		06	4.4
20	18	26,320	-55.4		06	7.0
15	15	28,181	-53.5		07	10.1
10	6	30,856	-48.8			
7						

• ST PAUL ISLAND, AK
1004 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p.s
SFC	30	10	-.6	-6.0	04	4.5
1000	20	88	-.9	-6.6	02	6.9
950	30	445	-3.8	-6.5	05	4.9
900	30	869	-6.8	-10.2	05	4.0
850	30	1,313	-9.4	-14.2	05	2.8
800	30	1,780	-12.1	-18.5	05	2.5
750	30	2,271	-14.7	-23.3	04	2.3
700	30	2,790	-17.6	-26.6	06	1.9
650	30	3,342	-20.7	-30.5	07	1.0
600	30	3,930	-24.2	-33.7	16	.1
550	30	4,559	-28.2	-37.8	24	1.1
500	30	5,237	-32.6	-41.6	24	.8
450	30	5,973	-37.1	-43.5	24	1.8
400	30	6,778	-42.5	-43.3	24	3.1
350	29	7,675	-48.2		20	2.7
300	29	8,677	-52.7		25	3.1
250	29	9,851	-53.7		26	4.8
200	29	11,291	-51.7		25	5.3
175	29	12,159	-50.9		25	7.8
150	28	13,166	-50.3		25	7.9
125	27	14,352	-50.1		25	8.2
100	27	15,812	-49.3		25	8.3
80	26	17,273	-49.3		25	9.2
70	26	18,149	-49.6		25	8.2
60	25	19,161	-49.8		25	7.3
50	25	20,354	-49.5		24	6.2
40	24	21,816	-50.0		23	6.3
30	24	23,696	-50.4		22	3.8
25	24	24,887	-50.0		22	3.6
20	24	26,347	-49.9		20	2.4
15	21	28,217	-50.7		18	3.1
10	16	30,867	-49.9		17	5.2
7	5	33,173	-44.1			

SALEM, IL
996 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	174	6.1	2.4	16	.3
1000	10	207	-.9	-7.2	01	1.4
950	30	562	5.6	.5	22	3.1
900	30	1,005	5.7	-1.0	25	6.1
850	30	1,472	4.0	-3.3	26	7.0
800	30	1,964	2.3	-5.3	27	7.9
750	30	2,486	.0	-8.0	27	9.5
700	30	3,036	-2.8	-11.2	26	11.0
650	30	3,619	-5.7	-15.1	26	12.3
600	30	4,243	-9.0	-20.3	26	14.6
550	30	4,911	-12.8	-25.1	26	16.4
500	30	5,633	-17.4	-29.0	26	18.3
450	30	6,416	-22.8	-33.3	26	19.9
400	30	7,267	-28.9	-38.4	26	21.9
350	30	8,212	-35.9	-44.4	26	23.5
300	30	9,263	-43.4		25	25.7
250	30	10,469	-51.3		25	28.4
200	30	11,901	-55.8		25	28.7
175	30	12,749	-57.0		26	25.2
150	30	13,722	-58.8		26	21.6
125	30	14,861	-61.0		26	19.4
100	29	16,244	-62.7		26	14.4
80	29	17,616	-63.8		26	11.2
70	29	18,437	-62.7		26	9.3
60	29	19,391	-61.6		27	6.4
50	27	20,518	-61.1		27	4.4
40	27	21,908	-59.6		27	3.8
30	26	23,715	-58.4		26	1.7
25	26	24,867	-56.7		25	1.3
20	25	26,288	-54.8		30	1.0
15	25	28,136	-53.0		31	.9
10	20	30,799	-48.4		[illegible]	.9
7						

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

SALEM, OR 1012 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	61	6.0	3.5	20	2.5
1000	28	167	6.8	4.5	21	3.7
950	30	579	5.4	1.4	22	6.2
900	30	1,019	3.2	-1.1	23	7.2
850	30	1,481	.6	-3.9	25	8.6
800	30	1,966	-1.6	-9.2	26	9.7
750	30	2,477	-4.2	-12.7	26	11.3
700	30	3,019	-6.8	-17.5	27	13.6
650	30	3,595	-9.6	-19.6	27	15.3
600	30	4,209	-13.2	-22.1	27	18.8
550	30	4,867	-17.4	-25.3	27	21.0
500	30	5,575	-21.5	-31.3	28	24.0
450	30	6,345	-25.9	-35.1	28	27.9
400	30	7,188	-31.6	-39.9	28	31.9
350	30	8,124	-37.6	-44.0	28	35.3
300	30	9,169	-44.5		28	37.0
250	30	10,371	-51.5		29	38.6
200	29	11,812	-56.6		28	32.5
175	29	12,658	-57.0		28	29.4
150	28	13,629	-57.7		28	23.7
125	28	14,773	-60.1		28	24.6
100	28	16,162	-60.8		28	17.6
80	25	17,553	-59.9		28	12.1
70	25	18,386	-60.4		28	11.3
60	24	19,347	-60.7		29	8.1
50	23	20,491	-60.2		29	4.2
40	22	21,885	-59.0		33	1.2
30	20	23,709	-56.6		06	2.3
25	19	24,865	-55.9		09	5.4
20	19	26,291	-54.3		09	6.6
15	16	28,149	-52.5		09	8.0
10	7	30,880	-47.5			
7						

SALT LAKE CITY, UT 873 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,288	3.2	-2.9	15	1.5
1000						
950						
900						
850	30	1,506	4.2	-5.1	18	1.9
800	30	1,998	2.2	-8.1	23	3.2
750	30	2,517	-1.1	-9.7	27	5.1
700	30	3,064	-4.7	-12.3	28	8.3
650	30	3,644	-7.9	-15.8	28	11.2
600	30	4,262	-11.3	-18.3	28	14.2
550	30	4,925	-15.2	-23.0	29	17.2
500	30	5,639	-19.5	-27.6	29	20.3
450	30	6,416	-24.1	-32.5	29	24.0
400	30	7,264	-30.2	-37.9	29	26.4
350	30	8,204	-36.8	-44.0	29	28.1
300	30	9,251	-44.6		29	31.1
250	30	10,450	-52.3		29	34.2
200	30	11,875	-57.6		29	33.7
175	30	12,717	-58.5		29	31.7
150	30	13,682	-60.0		29	26.8
125	30	14,815	-62.0		29	22.2
100	30	16,187	-64.4		29	18.9
80	29	17,555	-63.3		29	11.3
70	28	18,378	-63.6		30	8.7
60	27	19,328	-63.0		30	5.8
50	26	20,458	-62.5		30	4.0
40	25	21,849	-60.7		31	1.3
30	23	23,645	-58.5		03	1.2
25	22	24,800	-57.3		07	2.0
20	21	26,218	-56.0		08	3.3
15	14	28,055	-53.9		09	4.5
10	6	30,696	-48.6			
7						

SAN DIEGO, CA 1001 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	124	12.3	6.5	06	.7
1000	18	147	15.1	2.6	05	1.0
950	30	568	17.8	1.8	14	.2
900	30	1,029	16.6	-3.3	31	1.0
850	30	1,513	14.6	-6.2	30	2.2
800	30	2,023	11.9	-8.3	31	2.7
750	30	2,560	8.9	-11.3	31	3.6
700	30	3,127	5.7	-14.3	30	5.3
650	30	3,730	2.6	-17.8	30	6.7
600	30	4,371	-1.7	-20.8	30	8.5
550	30	5,058	-6.3	-24.0	31	10.4
500	30	5,796	-11.6	-26.8	30	11.4
450	29	6,597	-17.1	-31.7	30	12.3
400	29	7,470	-23.6	-37.8	30	13.6
350	29	8,434	-31.2	-44.0	30	14.3
300	29	9,504	-39.4	-49.5	30	16.3
250	29	10,727	-48.8		30	17.8
200	28	12,163	-57.5		30	20.1
175	27	12,999	-60.8		29	18.9
150	27	13,952	-63.1		29	19.2
125	26	15,059	-66.1		29	18.6
100	26	16,405	-68.2		29	16.7
80	26	17,739	-69.4		30	10.5
70	26	18,539	-67.6		31	7.7
60	26	19,470	-66.3		31	6.3
50	26	20,582	-63.0		29	5.0
40	26	21,961	-61.2		28	5.0
30	26	23,760	-58.1		26	5.6
25	25	24,911	-56.6		26	6.4
20	25	26,331	-55.1		27	5.6
15	21	28,177	-52.7		27	7.7
10	13	30,796	-48.8			
7						

SAN JUAN, P. R. 1013 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	6	23.3	21.7	11	1.6
1000	30	117	23.4	20.3	11	2.4
950	30	565	21.1	17.8	11	3.8
900	30	1,033	18.5	15.1	12	4.0
850	30	1,521	15.5	12.2	12	3.4
800	30	2,039	12.8	8.0	12	2.2
750	30	2,576	10.5	4.1	12	1.9
700	30	3,148	7.4	.7	13	1.1
650	30	3,755	4.1	-3.7	15	.4
600	30	4,403	.6	-8.9	03	.7
550	30	5,097	-3.1	-14.6	35	1.5
500	30	5,846	-7.2	-20.5	01	2.5
450	30	6,661	-11.8	-26.3	35	3.4
400	30	7,553	-17.8	-31.1	33	5.3
350	30	8,561	-24.9	-38.1	33	6.8
300	30	9,640	-33.4	-45.7	33	7.9
250	30	10,893	-43.5		32	10.9
200	30	12,357	-55.0		31	15.3
175	30	13,198	-61.1		31	16.1
150	30	14,141	-67.6		31	16.2
125	30	15,224	-73.5		30	13.3
100	30	16,519	-77.1		31	7.8
80	29	17,800	-75.1		36	2.4
70	29	18,882	-71.3		06	1.8
60	29	19,503	-67.5		09	3.0
50	29	20,612	-63.8		10	6.1
40	29	21,990	-61.2		10	6.9
30	28	23,799	-56.0		09	7.2
25	27	24,967	-52.8		11	5.0
20	25	26,421	-49.5		19	.8
15	23	28,320	-46.4		27	5.4
10	20	31,044	-41.5		28	12.5
7	6	33,427	-40.0			

● SAULT STE MARIE, MI 989 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	221	.4	-1.2	11	.5
1000						
950	30	540	-.3	-2.2	20	1.9
900	30	973	-1.5	-5.1	23	4.3
850	30	1,427	-3.5	-8.5	24	5.7
800	30	1,906	-4.8	-11.7	25	7.5
750	30	2,411	-7.5	-15.8	25	8.7
700	30	2,947	-9.7	-19.0	25	10.4
650	30	3,516	-12.4	-21.8	25	12.1
600	30	4,125	-15.1	-24.8	25	13.1
550	30	4,778	-18.7	-28.2	25	14.7
500	30	5,483	-23.1	-32.2	25	15.8
450	30	6,247	-28.2	-36.0	25	17.9
400	30	7,082	-34.1	-40.3	25	20.4
350	30	8,007	-40.6	-45.8	25	23.1
300	30	9,040	-46.5		25	25.6
250	30	10,236	-51.2		25	27.3
200	29	11,676	-53.7		26	26.4
175	29	12,534	-53.8		26	24.3
150	29	13,522	-55.0		26	20.6
125	29	14,686	-56.3		26	17.6
100	29	16,095	-58.1		26	14.2
80	28	17,498	-58.9		26	10.7
70	26	18,330	-58.6		27	9.0
60	25	19,292	-58.5		27	5.4
50	24	20,444	-58.2		26	3.9
40	24	21,850	-57.7		27	1.6
30	23	23,668	-57.4		01	.9
25	21	24,825	-56.9		04	3.1
20	20	26,249	-56.0		06	3.2
15	18	28,084	-54.7		05	3.7
10	11	30,680	-50.9		35	3.5
7						

SPOKANE, WA 932 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	720	-.3	-3.1	19	2.4
1000						
950						
900	30	1,001	-.1	-4.6	22	5.8
850	30	1,457	-1.8	-6.9	24	7.4
800	30	1,938	-4.4	-8.9	25	7.8
750	30	2,444	-7.3	-11.8	26	9.1
700	30	2,979	-10.3	-17.4	27	10.7
650	30	3,546	-13.7	-22.0	27	13.1
600	30	4,151	-17.1	-26.6	27	16.1
550	30	4,799	-20.7	-30.7	28	19.8
500	30	5,498	-25.0	-34.3	28	23.1
450	30	6,257	-29.7	-37.1	28	26.3
400	30	7,087	-35.2	-41.4	28	31.1
350	30	8,009	-41.2	-42.3	28	35.7
300	30	9,040	-47.1		28	40.6
250	30	10,232	-52.1		29	43.6
200	30	11,671	-53.4		29	37.3
175	30	12,530	-53.8		28	31.5
150	30	13,519	-54.6		28	28.0
125	30	14,684	-55.4		28	22.9
100	29	16,103	-56.2		28	17.7
80	29	17,516	-57.5		28	12.9
70	29	18,358	-58.0		28	10.3
60	28	19,328	-58.3		28	8.3
50	28	20,475	-58.0		29	5.1
40	27	21,882	-56.8		32	1.7
30	26	23,708	-56.0		06	2.4
25	26	24,870	-55.4		08	4.4
20	25	26,297	-54.6		08	5.9
15	19	28,149	-53.2		07	7.6
10	8	30,705	-53.7			
7						

TAMPA BAY, FL 1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	13	15.3	13.1	07	1.5
1000	30	151	18.2	13.7	09	2.7
950	30	591	16.8	10.1	13	2.5
900	30	1,050	14.8	5.9	19	2.2
850	30	1,533	13.1	2.0	23	2.3
800	30	2,041	11.1	-1.1	24	2.8
750	30	2,577	8.5	-5.8	24	3.9
700	30	3,145	5.7	-9.2	25	5.5
650	30	3,748	2.5	-13.1	25	7.6
600	30	4,391	-1.1	-16.7	25	10.0
550	30	5,079	-5.3	-21.8	25	11.8
500	30	5,821	-9.9	-26.2	25	14.3
450	30	6,625	-15.5	-29.5	25	16.1
400	30	7,504	-21.9	-34.2	26	17.3
350	30	8,476	-28.7	-40.7	26	19.7
300	30	9,559	-36.8	-47.9	26	22.5
250	30	10,796	-46.3		26	26.7
200	30	12,244	-56.6		26	30.3
175	30	13,082	-61.0		26	30.7
150	30	14,029	-65.7		26	25.8
125	30	15,127	-69.4		26	19.6
100	30	16,446	-72.5		26	14.6
80	30	17,759	-71.0		26	9.2
70	30	18,554	-68.2		26	5.9
60	30	19,487	-65.2		27	4.6
50	30	20,606	-62.5		27	4.7
40	30	21,991	-60.2		28	3.9
30	30	23,795	-58.0		29	3.5
25	30	24,950	-55.7		29	5.0
20	30	26,377	-54.0		29	6.4
15	27	28,238	-50.6		27	10.8
10	24	30,911	-45.5		27	18.2
7	16	33,341	-38.9		27	27.5

TOPEKA, KS 985 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	268	3.5	.6	02	.2
1000						
950	30	561	5.3	.5	31	2.3
900	30	1,002	4.9	-2.7	28	4.5
850	30	1,469	4.3	-4.3	29	5.5
800	30	1,961	2.5	-7.3	29	8.0
750	30	2,481	.0	-9.8	29	10.0
700	30	3,031	-2.6	-14.3	28	11.6
650	30	3,615	-5.8	-17.7	28	12.6
600	30	4,238	-9.3	-23.2	28	13.8
550	30	4,906	-13.2	-27.2	27	16.1
500	30	5,625	-18.2	-30.5	27	15.9
450	30	6,403	-23.7	-35.2	26	17.3
400	30	7,253	-30.2	-40.5	26	18.3
350	30	8,193	-37.2	-46.0	26	20.5
300	30	9,239	-44.4		26	22.8
250	30	10,441	-51.3		25	24.6
200	30	11,876	-55.3		26	20.9
175	30	12,725	-57.0		26	21.5
150	30	13,698	-58.5		27	19.8
125	30	14,839	-60.8		27	15.3
100	30	16,220	-62.7		27	12.7
80	29	17,592	-63.2		27	8.7
70	29	18,414	-62.7		27	6.5
60	28	19,364	-62.2		26	5.4
50	28	20,495	-60.5		27	3.1
40	28	21,885	-60.0		29	1.2
30	27	23,685	-58.6		26	1.7
25	24	24,834	-57.5		02	1.1
20	22	26,252	-55.7		04	.8
15	18	28,097	-53.6		06	3.5
10	12	30,747	-48.7			
7						

◆ TRUK, CAROLINE IS. 1010 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	28	2	28.0	24.7	07	2.2
1000	28	92	27.3	23.5	07	2.3
950	28	546	24.1	21.5	07	2.6
900	28	1,019	21.5	18.1	07	2.8
850	28	1,514	18.9	13.7	08	3.4
800	28	2,034	16.7	8.2	09	4.1
750	28	2,582	13.8	6.5	09	4.1
700	28	3,162	10.8	2.2	09	4.4
650	28	3,777	7.4	-2.5	09	4.9
600	28	4,432	3.5	-5.2	09	5.1
550	28	5,134	-.2	-10.5	10	5.7
500	28	5,891	-4.1	-16.4	10	5.3
450	28	6,715	-8.9	-19.5	10	5.5
400	28	7,618	-14.3	-25.6	10	6.2
350	28	8,621	-21.2	-32.3	10	5.9
300	28	9,737	-29.6	-41.1	10	5.8
250	28	11,011	-39.8	-50.2	09	5.3
200	27	12,493	-52.8		09	6.0
175	27	13,341	-59.7		09	6.7
150	27	14,288	-67.3		08	7.2
125	27	15,365	-75.6		07	8.9
100	27	16,634	-81.4		08	9.7
80	27	17,887	-79.7		09	10.9
70	27	18,654	-75.1		09	12.3
60	27	19,563	-69.4		09	16.2
50	27	20,666	-63.4		09	17.9
40	27	22,055	-58.4		08	7.4
30	25	23,891	-52.7		26	4.4
25	25	25,077	-49.5		26	9.2
20	21	26,558	-46.1		26	13.6
15	19	28,474	-42.9		26	15.1
10	8	31,208	-38.7			
7						

● TUCSON, AZ 925 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	789	10.6	.8	14	2.5
1000						
950						
900	30	1,024	15.2	-.8	14	2.6
850	30	1,507	13.8	-4.3	18	.6
800	30	2,015	10.8	-6.4	24	2.2
750	30	2,549	7.8	-10.0	26	3.6
700	30	3,114	4.5	-12.9	28	4.8
650	30	3,715	1.5	-17.5	29	6.4
600	30	4,354	-2.1	-20.7	30	8.3
550	30	5,040	-6.7	-23.8	30	10.6
500	30	5,776	-12.2	-29.0	30	12.6
450	29	6,575	-18.2	-33.8	30	13.7
400	29	7,444	-24.8	-38.8	30	15.5
350	29	8,406	-32.0	-44.3	30	16.6
300	28	9,472	-40.2	-49.5	29	18.5
250	28	10,693	-49.0		29	21.8
200	27	12,130	-57.6		29	21.4
175	27	12,966	-60.7		29	21.6
150	27	13,920	-63.4		29	18.3
125	27	15,032	-66.8		28	18.6
100	26	16,370	-69.8		29	14.3
80	25	17,703	-70.5		29	11.1
70	25	18,498	-69.0		30	8.7
60	24	19,423	-66.5		30	6.3
50	24	20,536	-63.8		28	5.1
40	24	21,913	-61.1		27	5.4
30	23	23,715	-58.4		27	6.4
25	23	24,864	-57.5		26	6.4
20	21	26,284	-55.5		27	6.0
15	19	28,131	-54.0		27	9.2
10	14	30,748	-47.5		27	11.6
7						

● VANDENBERG AFB, CA 1006 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	100	12.1	8.2	02	2.0
1000	29	152	14.3	4.5	01	2.9
950	30	584	15.9	1.2	02	5.6
900	30	1,042	15.0	-3.3	01	5.5
850	30	1,524	13.3	-6.5	36	5.2
800	30	2,032	10.8	-9.3	34	6.0
750	30	2,567	8.1	-11.5	33	6.7
700	30	3,133	5.0	-14.8	32	7.5
650	30	3,733	1.4	-17.5	31	8.4
600	30	4,373	-2.6	-20.1	30	9.4
550	30	5,057	-7.1	-23.3	30	10.8
500	30	5,793	-12.5	-27.6	29	12.4
450	30	6,589	-18.0	-31.6	30	14.2
400	30	7,458	-24.7	-36.8	29	15.6
350	30	8,418	-32.2	-43.1	29	16.0
300	30	9,484	-40.9	-48.5	30	18.4
250	30	10,698	-50.5		30	20.6
200	30	12,122	-59.6		30	22.7
175	30	12,952	-62.1		30	22.6
150	30	13,903	-63.6		29	19.9
125	30	15,014	-66.7		29	18.4
100	29	16,355	-69.1		29	15.0
80	28	17,685	-69.7		30	11.3
70	27	18,489	-68.3		30	7.7
60	24	19,411	-67.3		30	5.8
50	24	20,517	-65.0		30	4.8
40	24	21,887	-62.5		30	3.7
30	24	23,676	-59.5		28	2.6
25	22	24,819	-57.8		27	3.2
20	22	26,233	-56.1		27	4.2
15	22	28,072	-53.5		28	3.1
10	20	30,711	-49.1		27	4.7
7	12	33,080	-45.1			
5	8	35,309	-41.1			

VICTORIA, TX 1012 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	33	14.3	12.7	35	.7
1000	29	132	16.6	10.9	26	.4
950	30	567	16.3	9.2	21	3.1
900	30	1,025	13.8	5.9	22	3.9
850	30	1,506	11.6	-.3	25	3.9
800	30	2,012	10.4	-6.0	28	4.7
750	30	2,546	7.6	-8.3	27	5.5
700	30	3,111	4.8	-13.3	28	7.1
650	30	3,712	1.8	-16.6	27	8.5
600	30	4,353	-2.3	-19.9	27	9.7
550	30	5,038	-6.6	-24.6	27	10.3
500	30	5,775	-11.8	-29.7	27	12.1
450	30	6,574	-17.4	-34.4	27	14.1
400	30	7,445	-23.9	-39.6	27	16.1
350	30	8,409	-31.1	-44.4	27	18.1
300	30	9,482	-39.0	-50.3	26	22.4
250	28	10,706	-47.9		26	25.3
200	28	12,149	-56.4		27	29.5
175	28	12,990	-59.9		27	28.5
150	28	13,944	-63.9		27	24.7
125	28	15,051	-67.8		27	21.0
100	27	16,388	-70.2		27	15.7
80	27	17,712	-70.1		27	11.1
70	26	18,911	-68.0		26	8.8
60	26	19,443	-65.6		26	7.4
50	26	20,561	-62.1		26	7.2
40	25	21,948	-60.0		27	5.0
30	25	23,747	-59.2		26	5.3
25	24	24,895	-57.5		28	6.8
20	23	26,312	-55.1		28	7.1
15	22	28,169	-51.5		28	10.8
10	17	30,824	-46.6		27	15.7
7	8	33,250	-41.1			
5						

■ WAKE IS., PACIFIC AREA 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s
SFC	30	5	26.5	22.7	06	8.0
1000	30	136	25.1	20.6	06	8.7
950	30	585	21.4	18.8	07	9.4
900	30	1,053	18.2	15.0	07	8.5
850	30	1,541	15.8	9.8	08	7.5
800	30	2,055	14.3	2.3	08	7.1
750	30	2,599	12.7	-5.1	07	6.4
700	29	3,176	10.0	-9.1	06	6.0
650	29	3,788	6.8	-12.3	06	5.8
600	29	4,441	3.2	-15.2	05	5.3
550	29	5,140	-.9	-18.4	05	4.7
500	29	5,895	-5.5	-23.7	04	4.6
450	29	6,713	-10.7	-28.0	04	4.6
400	29	7,608	-17.3	-33.7	03	4.4
350	29	8,598	-24.3	-40.2	02	5.5
300	29	9,699	-33.2	-48.1	36	5.8
250	29	10,956	-42.6		34	6.6
200	29	12,426	-53.7		32	7.2
175	29	13,273	-59.8		32	6.5
150	29	14,221	-66.4		34	6.2
125	29	15,307	-73.3		35	5.0
100	29	16,591	-79.4		03	5.7
80	28	17,852	-79.9		06	6.8
70	27	18,617	-76.6		08	7.4
60	27	19,516	-70.8		08	6.4
50	27	20,614	-65.8		09	5.4
40	27	21,981	-62.9		10	5.3
30	26	23,770	-58.1		08	3.5
25	25	24,926	-55.9		08	2.1
20	23	26,364	-52.1		27	2.1
15	22	28,246	-48.2		26	9.4
10	19	30,973	-41.3		27	13.1
7	9	33,391	-37.3			
5						

● WALLOPS ISLAND, VA NASA 1020 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	4	9.3	8.8	36	1.3
1000	29	172	10.9	8.2	32	1.9
950	30	593	9.6	4.4	27	3.2
900	30	1,041	7.6	1.4	25	4.6
850	30	1,511	5.4	-.9	24	5.4
800	30	2,005	3.4	-3.2	25	7.0
750	30	2,527	1.1	-7.3	25	8.6
700	30	3,080	-.9	-12.9	25	11.3
650	30	3,669	-3.4	-16.6	25	13.8
600	30	4,298	-6.8	-20.1	25	15.3
550	30	4,973	-10.9	-23.9	25	17.0
500	30	5,699	-15.5	-28.0	25	19.1
450	30	6,486	-20.7	-33.5	25	20.7
400	30	7,346	-27.1	-38.1	25	22.8
350	30	8,299	-33.5	-43.0	25	24.9
300	30	9,360	-41.4	-49.4	25	27.0
250	30	10,576	-49.5		25	30.2
200	30	12,016	-55.9		26	29.9
175	30	12,860	-58.8		26	29.4
150	30	13,822	-61.7		26	27.7
125	30	14,945	-64.1		26	23.2
100	30	16,305	-65.7		26	17.5
80	30	17,662	-65.1		26	11.5
70	30	18,477	-64.4		26	8.6
60	30	19,624	-63.0		25	5.9
50	30	20,550	-61.5		26	5.2
40	30	21,940	-60.0		27	4.8
30	29	23,741	-58.6		28	2.8
25	29	24,891	-57.1		30	2.5
20	27	26,306	-55.9		32	2.8
15	26	28,154	-53.0		30	3.1
10	14	30,800	-49.6		31	3.4
7						
5						

WASHINGTON DULLES INT. AP 1010 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s
SFC	30	85	6.4	3.1	31	.3
1000	28	175	6.9	2.8	01	.1
950	30	587	6.6	2.8	22	1.7
900	30	1,030	4.9	1.1	25	4.3
850	30	1,495	2.8	-.3	26	6.0
800	30	1,985	1.2	-4.0	26	7.6
750	30	2,504	-.4	-8.8	26	9.7
700	30	3,054	-2.5	-12.8	25	11.1
650	30	3,640	-4.9	-16.6	25	13.1
600	30	4,265	-8.6	-20.4	25	13.5
550	30	4,936	-12.8	-25.1	25	15.5
500	30	5,655	-17.3	-28.7	25	17.8
450	30	6,437	-22.2	-33.7	25	19.9
400	30	7,292	-28.4	-39.0	25	21.6
350	30	8,240	-34.8	-45.3	25	23.4
300	30	9,297	-42.1	-50.2	25	26.3
250	30	10,510	-49.8		25	30.6
200	30	11,948	-55.9		26	28.0
175	30	12,794	-57.9		26	26.1
150	30	13,760	-60.6		26	23.8
125	30	14,888	-63.1		25	20.7
100	30	16,252	-65.2		26	15.5
80	30	17,613	-64.6		26	9.7
70	29	18,433	-63.7		26	7.5
60	29	19,381	-62.8		26	5.6
50	29	20,509	-60.9		25	3.9
40	28	21,893	-60.3		27	3.5
30	28	23,694	-58.6		27	2.2
25	28	24,843	-57.4		32	1.1
20	27	26,253	-55.9		01	1.6
15	25	28,096	-53.3		33	2.4
10	20	30,724	-50.2		29	3.2
7	6	33,057	-47.5			
5						

RAWINSONDE DATA

Average monthly values

NOVEMBER 1977

WAYCROSS, GA
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	44	12.3	10.6	04	.4
1000	30	154	14.6	9.9	09	.6
950	30	588	13.8	7.0	19	1.7
900	30	1,043	11.7	4.4	23	2.7
850	30	1,521	10.6	.2	23	4.0
800	30	2,024	8.4	-2.8	24	4.8
750	30	2,556	6.1	-6.1	24	5.8
700	30	3,118	3.4	-9.9	24	7.1
650	30	3,716	.4	-14.2	24	9.1
600	30	4,354	-3.5	-18.3	24	11.0
550	30	5,036	-7.6	-23.8	24	12.9
500	30	5,771	-12.5	-27.7	25	14.5
450	30	6,568	-17.9	-30.9	25	15.7
400	30	7,438	-24.0	-36.1	25	18.4
350	30	8,402	-31.0	-42.1	25	21.0
300	30	9,474	-39.0	-48.1	25	25.6
250	30	10,702	-47.6		25	30.9
200	30	12,146	-56.8		25	34.2
175	30	12,985	-60.2		25	33.6
150	29	13,932	-63.7		25	28.0
125	29	15,042	-67.0		25	21.8
100	28	16,379	-70.0		25	17.1
80	27	17,708	-69.4		26	12.6
70	27	18,510	-67.2		26	8.9
60	27	19,445	-64.7		26	8.0
50	26	20,566	-62.4		26	7.2
40	26	21,949	-60.9		27	6.6
30	26	23,748	-58.4		28	6.3
25	25	24,898	-57.3		29	7.1
20	24	26,317	-55.3		28	7.6
15	24	28,164	-52.8		27	11.1
10	18	30,806	-46.9		27	18.6
7	6	33,167	-41.3			

WEST PALM BEACH, FL
1016 MB

Standard pressure surface mb.	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	7	19.3	16.1	04	.7
1000	30	147	20.8	17.0	07	1.7
950	30	591	18.3	15.1	10	3.2
900	30	1,053	15.5	11.0	12	2.3
850	30	1,537	13.4	5.0	18	1.5
800	30	2,045	11.3	.4	22	1.8
750	30	2,583	9.5	-3.8	25	2.4
700	30	3,153	6.8	-9.2	26	3.6
650	30	3,758	3.6	-13.3	26	5.5
600	30	4,404	-.1	-14.8	26	7.7
550	30	5,095	-4.3	-20.7	26	9.3
500	30	5,839	-9.2	-24.1	26	11.3
450	30	6,646	-14.6	-29.2	26	13.4
400	30	7,527	-21.0	-35.1	26	15.1
350	30	8,502	-28.2	-39.7	26	16.9
300	29	9,587	-36.6	-46.4	26	20.6
250	29	10,827	-45.6		26	24.9
200	29	12,278	-56.3		26	29.4
175	29	13,116	-61.5		26	27.4
150	29	14,061	-66.4		26	25.0
125	29	15,152	-70.7		26	19.3
100	29	16,465	-73.3		26	14.2
80	29	17,775	-71.3		27	7.4
70	29	18,570	-68.5		27	4.6
60	29	19,502	-65.0		26	3.8
50	29	20,624	-61.8		26	3.0
40	29	22,012	-60.0		27	3.1
30	28	23,821	-56.9		29	2.7
25	28	24,982	-55.1		30	4.6
20	28	26,415	-52.8		28	4.8
15	28	28,289	-49.0		27	11.6
10	23	30,968	-44.6		27	21.6
7	11	33,361	-37.6			

WINNEMUCCA, NV
871 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,312	-.1	-7.6	21	1.1
1000						
950						
900						
850	30	1,511	4.9	-5.2	22	2.1
800	30	2,004	2.8	-7.3	25	5.0
750	30	2,524	-.1	-10.1	27	7.2
700	30	3,073	-2.9	-13.1	28	10.7
650	30	3,657	-5.9	-16.0	29	13.4
600	30	4,280	-9.4	-19.3	28	16.0
550	30	4,948	-13.3	-23.6	28	18.1
500	30	5,668	-17.6	-27.6	29	21.4
450	30	6,449	-22.7	-31.7	29	24.1
400	30	7,303	-29.0	-37.1	29	25.3
350	30	8,248	-35.5	-40.9	29	28.4
300	29	9,300	-43.1	-43.5	29	31.8
250	29	10,506	-51.6		29	36.3
200	29	11,930	-57.8		29	34.4
175	29	12,770	-59.1		29	31.7
150	29	13,735	-60.1		29	29.1
125	29	14,867	-62.0		29	23.5
100	29	16,239	-63.9		29	19.0
80	28	17,603	-63.9		29	12.3
70	28	18,422	-64.0		29	8.6
60	27	19,373	-62.9		30	6.8
50	26	20,497	-62.4		30	3.4
40	26	21,881	-60.6		33	1.6
30	24	23,680	-58.6		03	2.0
25	22	24,831	-57.3		06	2.3
20	19	26,258	-55.4		07	2.2
15	19	28,100	-53.8		06	3.5
10	11	30,704	-49.5			
7						

WINSLOW, AZ
853 MB

Standard pressure surface mb.	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,487	.7	-4.5	17	1.3
1000						
950						
900						
850	23	1,541	2.9	-6.5	15	.7
800	30	2,015	7.0	-7.3	26	2.9
750	30	2,543	4.8	-10.7	28	3.9
700	30	3,103	2.1	-14.3	29	5.5
650	30	3,699	-.7	-18.0	29	7.5
600	30	4,333	-4.4	-20.9	30	9.0
550	30	5,013	-8.8	-24.8	30	11.4
500	30	5,744	-14.1	-29.8	30	14.3
450	30	6,535	-19.5	-33.9	30	16.6
400	30	7,399	-26.1	-38.8	30	18.7
350	30	8,353	-33.5	-44.6	30	20.4
300	30	9,414	-41.7	-49.6	30	23.8
250	29	10,624	-50.6		30	25.9
200	29	12,053	-58.1		30	27.0
175	29	12,889	-60.5		29	25.3
150	29	13,845	-62.6		29	20.3
125	29	14,961	-65.6		29	19.0
100	29	16,309	-68.0		29	15.5
80	28	17,650	-68.2		29	10.7
70	28	18,454	-67.0		29	7.4
60	26	19,393	-66.1		30	5.4
50	26	20,505	-63.9		28	4.6
40	25	21,883	-61.1		28	3.4
30	24	23,682	-58.6		28	4.3
25	25	24,833	-57.4		26	3.9
20	23	26,249	-55.6		27	3.7
15	18	28,100	-52.6		27	3.4
10						
7						

YAKUTAT, AK
1004 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	12	-2.7	-5.5	11	.3
1000	16	136	-.8	-6.5	01	.3
950	30	452	-.9	-6.1	15	1.8
900	30	881	-3.6	-8.4	18	2.2
850	30	1,330	-6.5	-12.0	17	2.0
800	30	1,802	-9.2	-15.6	17	2.2
750	30	2,299	-12.3	-19.6	18	2.7
700	30	2,822	-16.0	-24.3	18	2.6
650	30	3,377	-19.7	-28.4	18	2.2
600	30	3,966	-23.8	-32.7	21	1.7
550	30	4,596	-28.3	-36.9	24	1.8
500	30	5,273	-33.2	-40.3	25	3.5
450	30	6,006	-38.0	-44.5	25	4.6
400	30	6,808	-43.5	-46.5	24	5.8
350	30	7,699	-48.4		25	6.8
300	30	8,701	-52.7		25	8.0
250	30	9,879	-52.2		27	8.9
200	30	11,327	-51.4		28	11.1
175	30	12,195	-51.3		27	11.9
150	30	13,199	-50.6		27	11.7
125	30	14,390	-50.1		26	10.6
100	30	15,847	-50.4		26	10.2
80	30	17,304	-49.9		26	8.8
70	30	18,176	-50.8		26	8.3
60	30	19,180	-50.8		27	7.4
50	30	20,367	-51.0		26	6.0
40	30	21,818	-51.2		27	5.0
30	29	23,687	-51.0		27	3.6
25	29	24,875	-50.6		28	2.2
20	27	26,328	-50.5		32	2.0
15	22	28,191	-51.5		34	2.9
10	20	30,[illegible]	-51.1		31	1.4
7						

YAP, CAROLINE IS.
◆ 1008 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	14	28.6	24.7	08	1.9
1000	30	88	27.7	24.4	08	1.6
950	30	543	24.2	22.3	08	2.4
900	30	1,016	21.3	18.9	09	2.6
850	30	1,511	18.4	15.4	08	2.4
800	30	2,030	16.1	11.2	08	2.5
750	30	2,578	13.5	6.7	09	2.9
700	30	3,156	10.5	2.6	09	3.5
650	30	3,771	7.3	-1.7	10	4.0
600	30	4,426	3.5	-4.5	09	4.1
550	30	5,128	-.4	-9.6	10	4.1
500	30	5,884	-4.7	-16.4	10	4.0
450	30	6,707	-9.2	-22.0	09	4.6
400	30	7,608	-14.9	-28.6	09	4.8
350	30	8,608	-21.7	-34.8	08	4.8
300	30	9,722	-30.2	-42.7	09	5.6
250	30	10,993	-40.4	-51.2	09	6.8
200	30	12,473	-53.0		09	7.9
175	30	13,321	-59.8		09	8.8
150	30	14,266	-67.6		09	9.4
125	30	15,343	-75.3		09	11.6
100	30	16,613	-81.8		09	10.4
[illegible]	30	17,861	-80.3		09	11.9
70	30	18,624	-75.7		09	13.0
60	30	19,529	-70.2		09	16.0
50	30	20,626	-64.9		09	18.3
40	30	22,009	-59.0		09	10.1
30	29	23,838	-53.1		27	1.9
25	29	25,021	-50.5		26	6.4
20	29	26,488	-47.2		26	9.8
15	26	28,407	-43.2		26	11.4
10	23	31,158	-39.1		27	10.0
7	11	33,636	-34.9			

YUCCA FLAT, NV
883 MB

Standard pressure surface mb.	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	1,198	.8	-9.8	31	1.0
1000						
950						
900						
850	30	1,510	9.4	-8.1	34	1.6
800	30	2,010	7.3	-9.8	28	1.3
750	30	2,539	5.1	-11.4	30	2.8
700	30	3,099	2.4	-13.0	30	5.1
650	30	3,695	-.9	-15.4	30	6.9
600	30	4,329	-4.6	-18.8	30	9.7
550	30	5,008	-9.0	-22.4	30	12.5
500	30	5,739	-14.0	-26.6	30	15.0
450	30	6,531	-19.6	-31.5	30	16.4
400	30	7,395	-26.0	-37.4	30	17.0
350	30	8,350	-33.3	-43.3	30	18.0
300	30	9,411	-42.0	-47.2	30	21.3
250	30	10,622	-50.9		30	23.5
200	30	12,046	-58.5		30	23.6
175	30	12,882	-60.3		30	23.1
150	30	13,838	-62.2		30	20.9
125	30	14,959	-64.4		29	18.5
100	29	16,318	-66.5		29	14.1
[illegible]	26	17,662	-66.7		30	10.5
70	25	18,473	-66.8		30	8.8
60	25	19,409	-64.3		30	5.6
50	23	20,532	-62.9		30	3.7
40	20	21,913	-61.3		30	2.7
30	18	23,705	-58.9		31	2.2
25	17	24,844	-57.4		30	1.7
20	17	26,263	-55.0		30	1.5
15	14	28,123	-53.6		01	2.9
10						
7						

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun. NOVEMBER 1977

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, NM

	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	1.02	1.12	1.25	1.36	1.47	1.40	1.27	1.16	1.06
2-----	1.05	1.15	1.24	1.36	1.41	1.36	1.23	1.09	.98
3-----	1.02	1.12	1.23	1.37	1.42	1.35	1.23	1.11	1.00
4-----	1.03	1.12	1.23	1.36	1.43	1.35	1.20	1.08	.96
5-----	.98	1.08	1.20	1.34	----	----	----	----	----
6-----	----	1.07	1.20	1.33	----	----	----	----	----
8-----	.89	1.03	1.15	1.30	1.39	1.26	1.01	.82	.68
9-----	1.04	1.11	1.21	1.35	1.38	1.33	1.21	1.12	1.03
10----	1.00	1.07	1.18	1.30	1.34	1.30	1.17	1.06	.97
11----	(1.00)	(1.07)	(1.24)	1.36	(1.44)	----	----	----	----
12----	----	----	----	----	(1.41)	(1.38)	1.22	1.12	1.03
13----	1.05	1.16	1.28	1.41	1.45	1.37	----	----	----
14----	----	----	----	----	----	----	----	(1.12)	1.03
15----	----	----	(1.25)	----	----	----	----	----	----
16----	1.10	1.19	1.26	1.43	1.46	1.44	1.30	1.16	1.06
17----	1.08	1.17	1.26	1.39	1.46	1.37	1.26	1.13	1.03
20----	----	----	----	1.30	1.37	----	1.20	1.09	----
22----	1.01	1.12	1.22	(1.36)	----	----	----	----	----
23----	1.04	----	1.21	1.26	1.32	1.26	1.09	.98	.94
25----	----	----	----	----	1.36	1.32	1.19	1.08	.99
26----	----	(1.10)	(1.22)	----	(1.36)	(1.32)	(1.17)	----	----
28----	(1.01)	----	1.19	1.35	----	----	----	1.07	.98
29----	.98	1.07	1.19	----	1.36	(1.32)	----	(1.08)	(.99)
30----	1.02	1.11	1.22	1.33	----	----	----	1.07	.94
Averages	1.02	1.11	1.22	1.35	1.40	1.34	1.20	1.08	.98

MADISON, WI

	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
1-----	S .95	S1.03	S1.13	S1.25	S1.26	S1.25	S1.11	S1.02	S .94
5-----	S .81	S .88	----	----	----	----	----	----	----
11----	----	----	----	----	----	----	S1.18	S1.08	S1.00
12----	S1.01	S1.10	S1.21	----	S1.34	----	S1.21	S1.10	S1.01
14----	H .61	H .73	H .89	----	----	----	----	----	----
26----	S1.02	S1.15	S1.23	----	----	----	----	----	----
28----	S .87	S1.00	S1.14	----	S1.24	----	----	----	----
Averages	.88	.98	1.12	1.25	1.26	1.25	1.15	1.05	.98

TUCSON, AZ

	Air mass								
	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	----	----	----	----	----	1.40	1.25	1.13	1.00
2-----	.99	1.07	1.21	1.36	1.45	1.35	1.18	1.06	.96
3-----	.99	1.09	1.22	1.36	1.43	1.31	1.17	1.04	.92
4-----	.92	1.03	1.16	1.31	1.39	1.24	----	----	----
5-----	.89	.99	1.13	1.30	1.35	1.28	1.16	----	----
6-----	----	----	----	----	----	----	1.13	----	----
7-----	----	----	----	----	1.33	----	----	----	----
8-----	.89	1.00	1.12	1.29	1.36	1.33	1.17	1.02	.93
9-----	.96	1.05	1.19	1.30	1.46	1.34	1.20	1.09	1.00
10----	1.06	1.13	1.26	1.41	1.47	1.36	1.23	1.10	1.02
11----	----	----	----	----	----	1.34	1.21	1.09	1.02
12----	----	----	----	----	----	----	----	1.05	.98
13----	.99	1.09	1.20	1.33	1.38	----	----	----	----
14----	----	1.02	1.17	1.29	1.40	1.31	1.06	.96	.86
15----	.91	----	----	1.30	1.40	1.29	1.14	----	----
16----	.94	1.05	1.14	1.35	1.43	1.35	1.20	1.07	.96
17----	.99	1.08	1.21	1.36	1.42	1.34	1.17	1.04	.94
18----	----	----	1.19	----	----	----	1.19	1.09	1.01
19----	----	----	----	----	1.38	1.27	1.18	1.01	.89
20----	.84	.95	1.09	1.24	1.31	----	1.07	----	----
21----	.91	1.00	1.12	1.30	----	----	----	----	----
22----	1.01	1.09	1.22	----	----	1.34	1.19	1.09	----
23----	----	----	----	1.36	1.41	1.34	1.23	1.11	1.02
24----	.92	----	----	----	----	----	----	----	.82
25----	.85	.97	1.07	1.27	1.33	1.25	1.11	.99	.89
26----	.91	1.00	1.14	1.30	1.36	1.30	1.14	1.04	.97
27----	.99	1.08	1.20	1.33	1.39	----	----	----	----
28----	.93	1.04	1.17	1.33	1.41	1.32	----	----	.92
29----	.98	1.07	1.19	1.34	1.39	1.31	1.12	1.04	.92
30----	----	----	----	----	----	----	----	1.09	.93
Averages	.94	1.04	1.17	1.32	1.39	1.32	1.17	1.06	.95

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

BLUE HILL OBSERVATORY, MA

	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HI

	Air mass								
	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1-----	----	1.33	1.42	1.52	1.61	----	----	----	----
2-----	1.22	1.30	1.40	1.50	----	----	----	----	----
3-----	1.22	1.31	1.39	1.50	1.59	1.48	1.38	1.29	----
4-----	1.23	1.33	1.42	1.53	1.64	1.53	1.43	1.34	1.27
5-----	1.30	1.37	1.45	1.55	1.64	1.52	1.41	1.32	1.24
6-----	1.29	1.36	1.44	1.55	1.66	----	1.45	1.36	1.28
7-----	1.31	1.35	1.44	1.55	----	----	----	----	----
8-----	1.26	1.33	1.42	1.53	----	----	----	----	----
9-----	1.24	1.31	1.40	1.51	----	----	----	----	----
10----	1.22	1.30	1.40	1.51	1.60	1.51	1.36	1.28	1.19
12----	1.20	1.28	1.36	1.49	1.57	----	----	----	----
13----	1.29	1.37	1.45	1.56	1.64	1.54	1.44	1.35	1.20
14----	1.28	1.36	1.45	1.55	1.59	----	----	----	----
15----	1.22	1.29	1.38	1.50	----	----	----	----	----
16----	1.23	1.29	1.37	1.41	----	----	----	----	----
17----	1.24	1.32	1.42	1.53	1.62	1.51	1.42	1.35	1.27
18----	1.27	1.34	1.43	1.54	1.61	1.50	1.38	1.30	1.21
19----	1.25	1.35	1.41	1.52	1.61	1.49	1.37	1.27	1.19
20----	1.23	1.32	1.40	1.51	1.59	----	----	----	----
21----	1.24	1.32	1.40	1.51	1.59	----	----	----	----
22----	1.25	1.33	1.41	1.53	1.59	1.43	1.31	1.22	1.14
23----	1.20	1.31	1.39	1.51	----	----	----	----	----
25----	1.26	1.33	1.41	1.51	1.63	1.54	1.44	1.36	1.28
26----	1.33	1.40	1.48	1.59	1.67	1.57	1.46	1.37	1.30
27----	1.32	1.40	1.48	1.59	1.63	1.51	1.39	1.29	1.20
28----	1.30	1.38	1.49	1.58	1.66	1.57	1.45	1.37	1.27
29----	1.27	1.35	1.43	1.54	1.59	----	----	----	----
30----	1.31	1.39	1.47	1.57	----	----	----	----	----
Averages	1.25	1.34	1.42	1.53	1.62	1.52	1.41	1.15	1.23

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

Date. . . . . Langleys. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
														NO DATA RECEIVED																		

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 A) at Ames, Iowa

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg
Langleys. . .														NO DATA RECEIVED																		

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for time of observations).

+ And also on an earlier date or dates.
D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
+ And also on an earlier date or dates.
U Indicates Urban site.
R Indicates Rural site.
Ø Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U Indicates Urban site.
R Indicates Rural site.

STORM SUMMARY:

° Includes crop damage.
C Crop damage.
* No occurrence of storms or unusual weather phenomena reported.
@ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
Ø For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡ No Storm Data Report received for this State.
<> Report Incomplete.
* Storm damages are placed in categories varying from 1 to 9 as follows

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/ Flooding continued at the end of the month.
NA Not available.

FLOOD STAGE DATA:

Highest Stage Observed
1/ Continued at end of month
___ Highest Stage of Record
E Estimated
P Provisional (Flood Stage)
U Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+ Observations for these stations are scheduled at 0000 G.C.T.
† Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

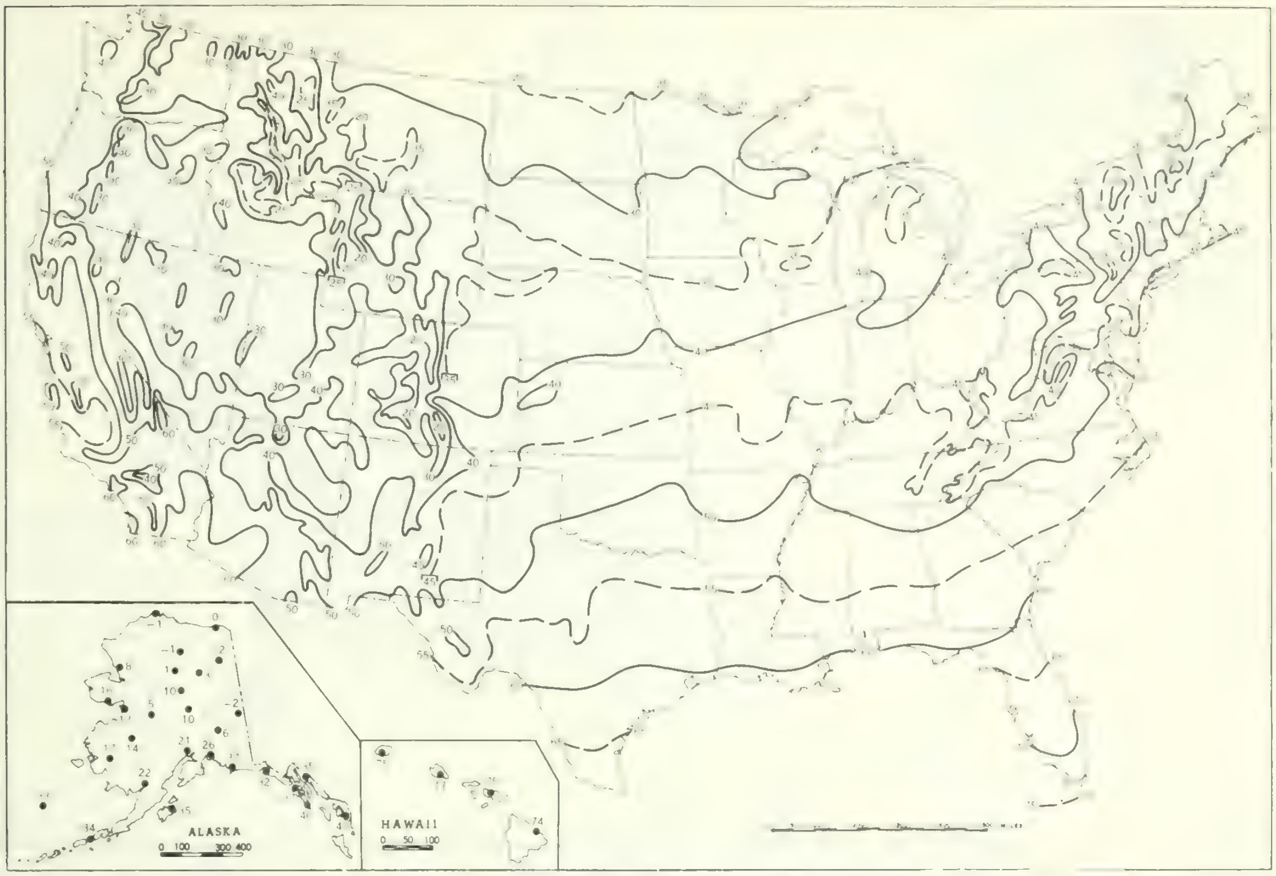
()	Clouds Present
*	Values corresponding to true solar noon
BD	Blowing Dust
BN	Blowing Sand
D	Dust
DI	Intense Dust
DM	Moderate Dust
DS	Slight Dust
F	Fog
GF	Ground Fog
H	Haze
HI	Intense Haze
HM	Moderate Haze
HS	Slight Haze
I	Intense Haze-indeterminable
K	Smoke
KI	Intense Smoke
KM	Moderate Smoke
KS	Slight Smoke
M	Moderate Haze-indeterminable
N	Sand
S	Slight Haze-indeterminable

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

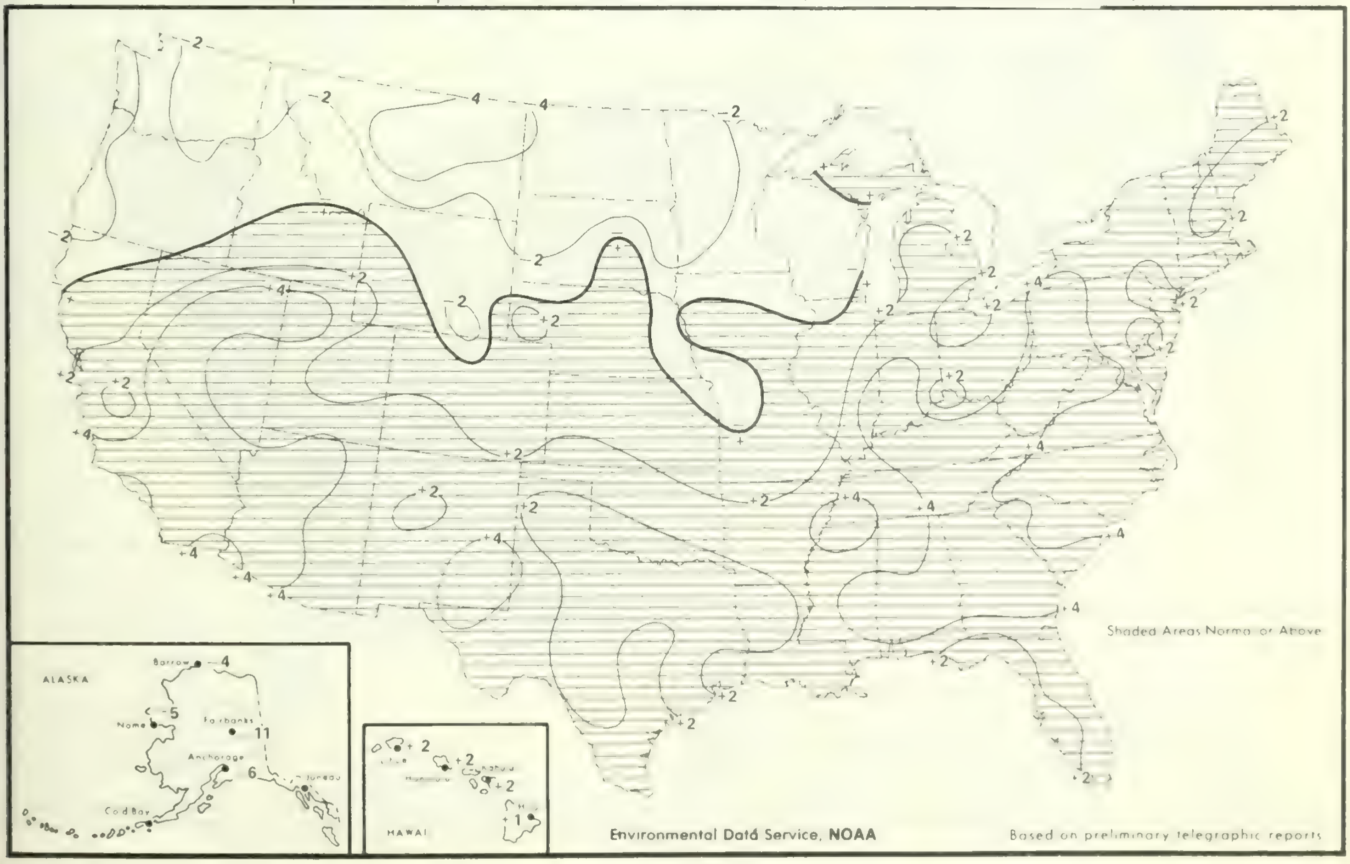
These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), November.



B. Temperature Departure from 30 - Year Mean (F 1941-70), November 1977

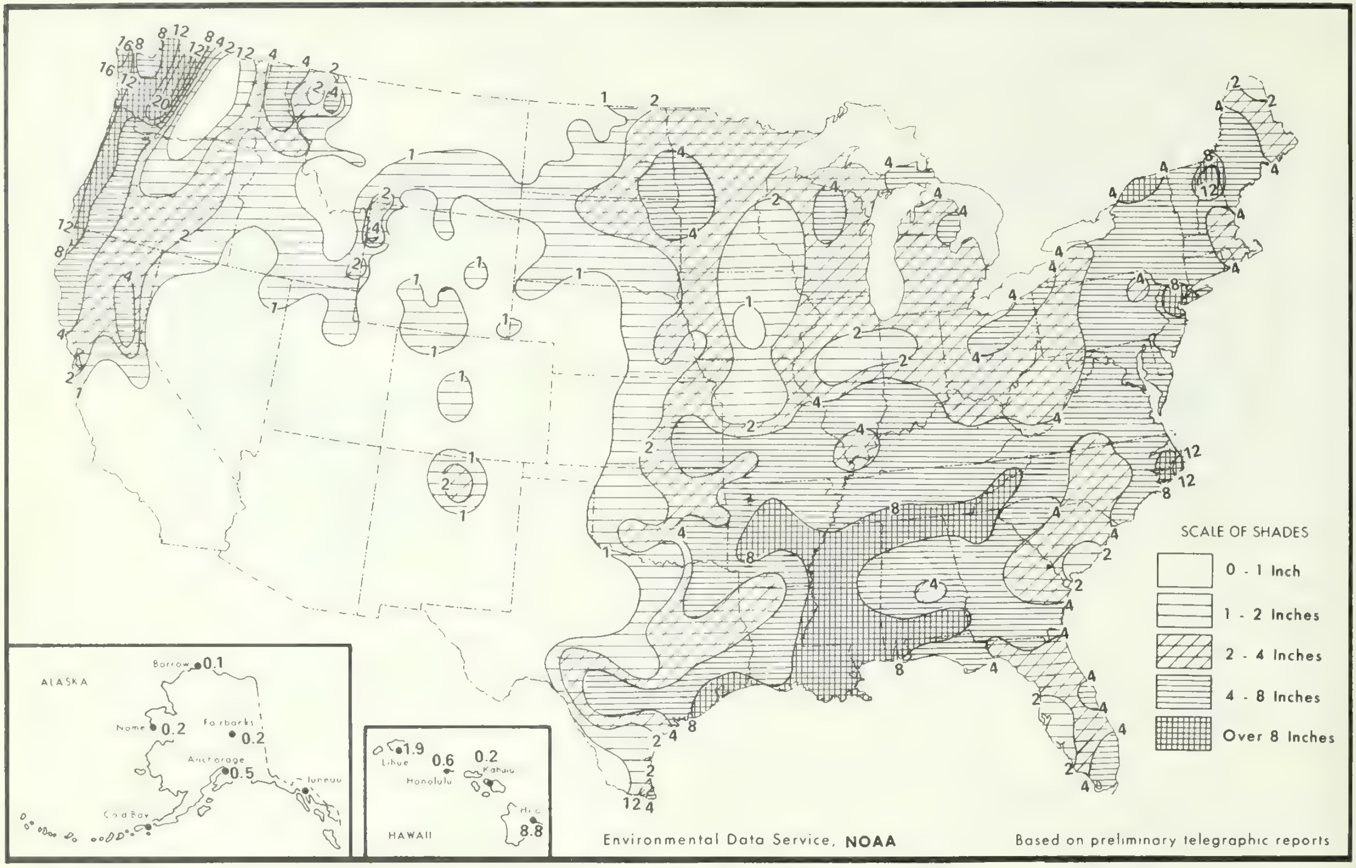


Shaded Areas Normal or Above

Environmental Data Service, NOAA

Based on preliminary telegraphic reports

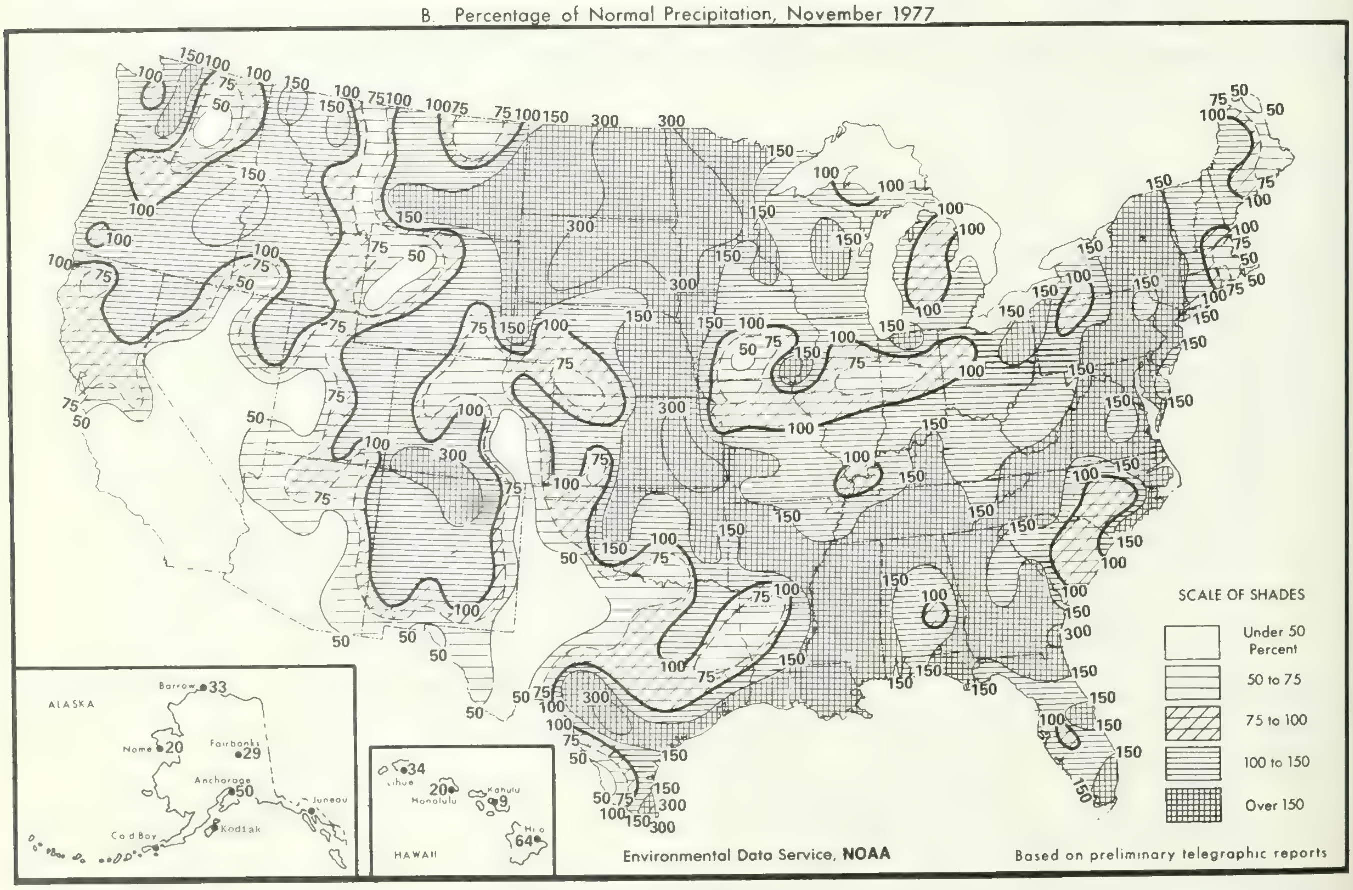
Chart II. A. Total Precipitation (Inches), November 1977



Environmental Data Service, **NOAA**

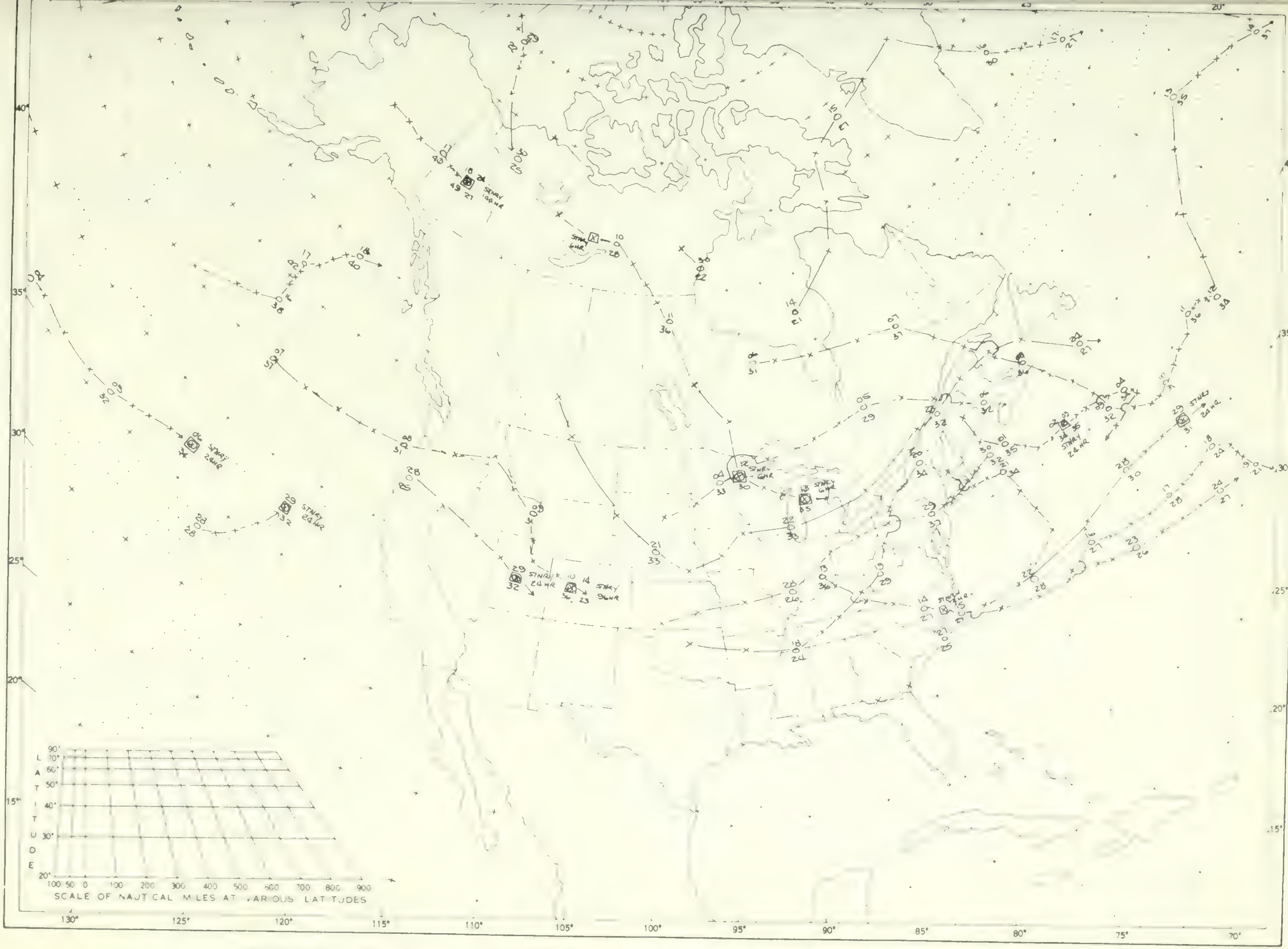
Based on preliminary telegraphic reports

B. Percentage of Normal Precipitation, November 1977



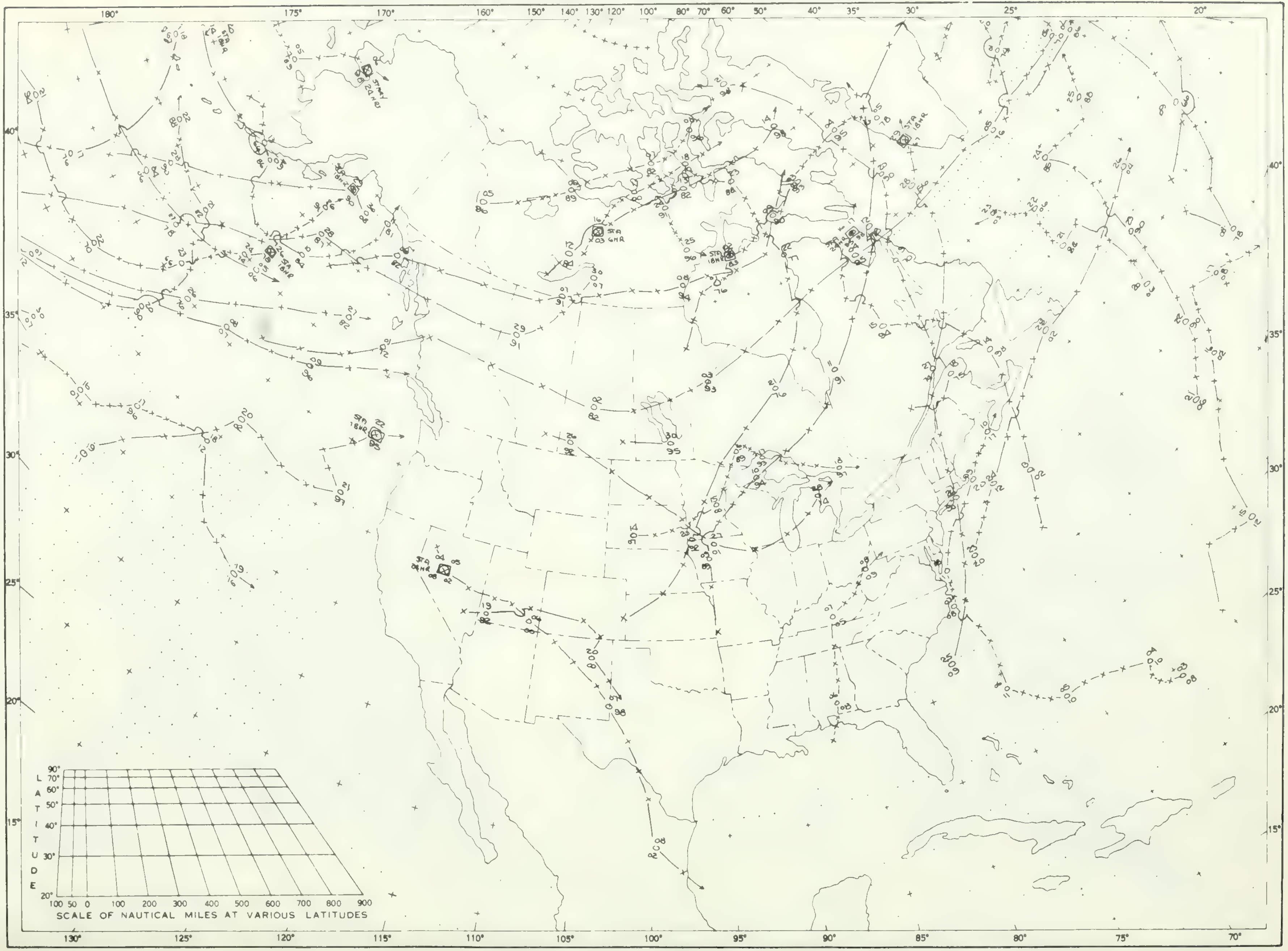
Environmental Data Service, **NOAA**

Based on preliminary telegraphic reports



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IV. Tracks of Centers of Cyclones at Sea Level, November 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.

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DECEMBER 1977 VOLUME 28 NUMBER 12

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

"I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801."

Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / NATIONAL CLIMATIC CENTER ASHEVILLE, N.C.

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NOTE: Late reports and corrections will be carried in the June and December issues of this publication. An explanatory page "Description of Charts" will be carried in the January and July issues.

Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801 Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary; $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DECEMBER 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lyle Denny, Climatologist
Environmental Data Service, NOAA

HIGHLIGHTS: The most notable feature of the month was a return to near-normal precipitation in most of the drought-stricken western United States. Some areas received well above normal, but some minor points of the eastern Plateau Region got only small amounts of snow. Average temperatures for the month were colder than normal east of the Continental Divide. Most of this area averaged 2 to 5° colder than normal, but central Montana measured as much as 10° colder. Most of the West was as much as 7 to 9° warmer than normal.

Thunderstorms and tornadoes in the southern United States and record high temperatures in the mid-Atlantic States were more like late summer than the early days of December. From the 1st to the 4th, heavy rain fell from the lower Mississippi River northeastward to the central Appalachians. Elsewhere, flooding occurred in the coastal area of the Pacific Northwest as heavy rain persisted.

The week of the 5th to 11th was quite different from the earlier days. An outbreak of cold air moved southward from Canada and enveloped the entire Nation east of the Rockies. Freezing temperatures dipped into the Deep South and northern Florida. Sub-zero readings were recorded from the central Plains to New England. Ahead of the cold air another outbreak of thunderstorms and tornadoes hit the South and freezing rain, sleet, or snow fell from central Appalachians through the Ohio Valley and New England. Rain--snow in the mountains--continued in the Northwest and spread southward to central California.

In the week of mid-December, precipitation in some form fell over nearly all of the Nation. Exceptions were southern Arizona and sections of New Mexico and the area from western Texas through western Kansas and eastern Colorado where rain was badly needed. Rain covered the entire West Coast and snow fell all the way to the Rockies and south to northern Arizona and New Mexico. Snow also fell from the northern Plains eastward through New England. Moderate rain occurred from eastern Texas to the mid-Atlantic States and in the Southeast. Only New England recorded colder than normal temperatures. Elsewhere readings were well above normal--as much as 12 to 15° warmer than normal in parts of the Plains.

Early in the third week a ridge of high pressure began building over the western United States and, as a low pressure system deepened in the Pacific, a situation developed which triggered very high winds blowing from the Sierras westward. Considerable property and crop damage resulted. Blessings were mixed, however; as the low pressure moved inland the wind subsided and rain started. More snow covered the mountains, adding to the moisture storage which will be needed as irrigation water in the summer. Thunderstorms and tornadoes occurred again in the South and rain or snow covered most of the area east of the Mississippi River.

Precipitation fell in nearly all of the Nation during the last week. Even the dry area of western Texas received welcome but light amounts. Excluded again was the area of western Kansas and eastern Colorado. The persistent low pressure area off the West Coast continued to steer Pacific storms into the western United States. This is a normal situation for this time of year but one that has not developed with such persistence during the last two years. Temperatures in all but the southwestern quarter were colder than normal. Freezing temperatures extended well into central Florida, but little crop damage was reported.

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES

DECEMBER 1977

STATE	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Leas
		°F			°F			In.		In.
Alabama	Montgomery WSO AP	83	5	2 Stations	10	30+	Andalusia 1 NW	7.20	Guntersville	1.5
Alaska	McGrath WSO AP	49	29	Five Mile	-64	14	Little Port Walter	10.94	Tok	.0
Arizona	2 Stations	85	6	Sanders 11 ESE	- 5	20	Palisade Ranger Station	3.16	Winslow WSO AP	.1
Arkansas	Okay	81	4	2 Stations	6	10+	Salem 2 NNE	4.12	Prescott	.9
California	Cachuma Lake	90	6	Bodie	-18	20	Gasquet Ranger Station	23.83	Neddles FAA Airport	.1
Colorado	2 Stations	74	12+	Taylor Park	-34	21	Berthoud Pass	6.97	6 Stations	.0
Connecticut	2 Stations	54	15+	Norfolk 2 SW	- 8	12	Cockaponset Ranger Station	7.21	Falls Village	4.6
Delaware	Dover	67	2	Georgetown 5 SW	7	27	Georgetown 5 SW	7.99	Wilmington WSO AP	5.8
Florida	Fort Lauderdale Exp. Sta.	89	3+	Smith Creek	15	11	Hillsborough Rvr. St. Pk.	10.18	Miami 12 SSW	1.4
Georgia	2 Stations	83	6+	Blairsville Exp. Station	5	7	Homerville 3 WSW	8.68	Rome WSO AP	1.9
Hawaii	3 Stations	91	6+	Mauna Loa Slope Obs, HI	25	23	Keanae 346, Maui	19.90	4 Stations	.0
Idaho	2 Stations	62	15	2 Stations	-22	21+	Pierce	11.00	Strevell	.4
Illinois	Nashville 4 NE	63	24	Rochelle 6 NW	-16	11	Grand Tower 2 N	5.42	Fulton Dam 13	.8
Indiana	Mount Vernon	61	18	4 Stations	-15	11+	Madison Sewage Plant	6.46	Wanatah 2 WNW	1.2
Iowa	Sidney	61	16	2 Stations	-22	9+	Dubuque WSO AP	2.49	Glenwood	.1
Kansas	2 Stations	77	12	Atwood	-10	9	Columbus 6 NNW	1.01	9 Stations	.0
Kentucky	Pikeville	70	16	Covington WSO AP	- 5	11	Bowling Green	6.51	Mount Sterling	2.0
Louisiana	2 Stations	84	6+	Plain Dealing	14	26	Plaquemines Exp. Station	6.46	Hosston	1.7
Maine	3 Stations	52	25+	Squa Pan Dam	-31	14	Bar Harbor 3 NW	10.35	Presque Isle	2.6
Maryland	2 Stations	67	1	Oakland 1 SE	- 8	8	Snow Hill 4 N	8.92	Frostburg 2	2.3
Massachusetts	Edgartown	57	2	2 Stations	-20	12	Edgartown	9.05	Stockbridge	5.6
Michigan	2 Stations	56	1	Crystal Falls 6 NE	-35	12	Big Bay	5.68	Bay City	.9
Minnesota	3 Stations	46	16+	Thorhult 1 S	-41	10	Montevideo 1 SW	3.34	Roseau 1 E	.2
Mississippi	5 Stations	82	6+	University	11	26	Biloxi City	6.24	Meridian WSO AP	1.6
Missouri	Ozark Beach	70	16	Chillicothe Radio KCHI	-11	9	Marble Hill	6.83	2 Stations	.3
Montana	Bridger	60	3	Opheim 10 N	-46	9	Lindbergh Lake	8.25	2 Stations	.2
Nebraska	2 Stations	71	16+	Chadron FAA AP	-23	9	Herman	1.54	5 Stations	T
Nevada	Sunrise Manr Las Vegas	80	5	Ruth	-26	20	Carson City	4.44	Pahranagat Wildlife Refuge	.2
New Hampshire	Greenland	49	24+	Mount Washington	-30	12+	Mount Washington	12.08	Colebrook 2 E	2.3
New Jersey	Belleplain State Forest	63	1	2 Stations	0	12+	Tuckerton	7.40	Jersey City	3.7
New Mexico	Jal	84	8	Chama	-10	20	Cureton Ranch	1.02	15 Stations	.0
New York	Mount Morris 2 W	66	2	Old Forge	-36	12	Boonville 2 SSW	8.79	Suffern Water Works	2.4
North Carolina	Elizabethtown Lock 2	76	1	Grandfather Mountain	-16	10	Lake Toxaway 2 SW	8.10	Asheville	1.5
North Dakota	2 Stations	49	11	2 Stations	-40	9	Velva	2.04	Sheyenne	.2
Ohio	3 Stations	67	17+	4 Stations	-12	12+	Chardon	6.34	Middlebourne	1.8
Oklahoma	Hollis	81	15	Kenton	1	21	Stilwell 1 NE	2.38	6 Stations	.0
Oregon	Port Orford 2	70	20	Seneca	-12	20	Nehalem 9 NE	35.27	Malheur Refuge Hdg.	.7
Pennsylvania	2 Stations	68	2+	Clermont 4 NW	-21	11	North East 2 SE	7.52	Madera	1.6
Puerto Rico	Benavente-Hormigueros	93	12+	Adjuntas Substation	48	20	Pico Del Este	9.87	2 Stations	.0
Rhode Island	2 Stations	55	15+	North Foster 1 E	1	12	Kingston	7.79	Providence WSO AP	5.8
South Carolina	Ridgeland 5 NE	79	1	Caesars Head	- 1	8	Kingstree 1 SE	7.35	Santuck	2.1
South Dakota	Rapid City	62	14	Camp Crook	-34	9	Wagner	1.70	Porcupine 16 NW	.0
Tennessee	4 Stations	72	5+	3 Stations	0	8+	Linden 2	7.07	Pulaski Water Plant	2.1
Texas	2 Stations	97	6	2 Stations	5	10+	Liberty	8.94	32 Stations	.0
Utah	2 Stations	73	5	Scofield Dam	-29	21	Silver Lake Brighton	6.66	Callao	.0
Vermont	Dorset 1 S	50	2	Enosburg Falls	-26	12	Searsburg Station	7.35	Enosburg Falls	2.7
Virginia	Norfolk WSO AP	74	1	3 Stations	- 5	28+	Wallops Island WSSF	8.76	Glen Lyn	1.0
Virgin Islands	2 Stations	88	21+	Cruz Bay	65	21+	Caneel Bay Plantation	5.09	Ham Bluff Lighthouse Sta.	1.5
Washington	Smyrna	69	4	Winthrop 1 WSW	-21	28	Cougar 6 E	30.61	Kennewick	1.2
West Virginia	3 Stations	70	18+	Canaan Valley	-10	8	Snowshoe	D 5.06	Union	.3
Wisconsin	Burlington	53	18	Jump River 5 E	-36	27	Oconto 4 W	3.42	Martintown	.7
Wyoming	3 Stations	61	15+	Recluse 14 NNW	-36	9	Snake River	9.35	3 Stations	T

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Ice pellets		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Resultant speed	Resultant direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
ALABAMA																																
BIRMINGHAM	189	995.9	1019.0	12.0	1.4	6.7	-0.6	22.2	5	-7.8	7	0	13	1.1	69	51	-82	19	8	2	T	0	1.1	25	14.8	NW	5	8	8	15	6.4	60
HUNTSVILLE	190	994.9	1018.5	10.7	-0.1	5.3	-0.5	20.6	5	-10.0	10	0	15	-1.7	63	57	-80	14	8	2	T	T	1.2	24	13.9	29	5	9	7	15	6.3	
MOBILE	64	1011.2	1019.1	16.1	4.8	10.4	-1.2	26.1	5	-3.9	27	0	9	5.6	73	125	-25	42	11	3	0	0	0.1	29	13.4	21	5	9	7	15	5.9	
MONTGOMERY	59	1011.5	1019.0	15.8	3.6	9.7	0.6	28.3	5	-3.9	29+	0	12	2.8	65	79	-46	25	11	3	T	0	0.8	29	18.8	NW	5	12	8	11	5.1	59
ALASKA																																
ANCHORAGE	35	1008.5	1013.7	-7.8	-15.2	-11.5	-0.9	3.3	23	-26.7	9	0	31	-15.6	69	19	-10	12	6	0	269	356	1.5	36	10.3	32	11	8	7	16	6.3	37
ANNETTE	34			1.2	-3.4	-1.1	-3.3	7.2	14	-16.1	9	0	23			151	-157	26	15		615	279			13.4	10	14	7	2	22	7.5	
BARROW	9	1016.0	1018.4	-17.9	-26.1	-22.0	2.6	-2.8	30	-36.1	3+	0	31	-24.4	81	5	0	2	8	0	69	127	0.8	12	20.6	20	30					
BARTER ISLAND	12	1017.3	1019.4	-17.7	-25.7	-21.7	2.9	-0.6	30	-36.7	16+	0	31	-26.1	70	4	-3	2	6	0	58	330	2.5	26	21.5	27	27					
BETHEL	38	1010.2	1016.1	-8.8	-14.6	-11.7	3.7	2.8	21	-31.1	18+	0	30	-16.7	69	39	24	10	14	0	351	203	1.2	11	25.9	17	29	9	4	18	6.4	
BETTLES	196	995.9	1022.4	-23.0	-28.8	-25.9	-1.4	-0.6	30	-45.6	16+	0	31	-28.9	76	39	14	6	12	0	754	787	0.6	33								
BIG DELTA	384			-20.8	-27.5	-24.2	-4.1	-3.9	23	-42.2	4	0	31			4	-7	3	4		97	330										
COLD BAY	29	1008.5	1012.3	1.1	-4.0	-1.4	0.2	6.7	20	-12.8	7	0	20	-4.4	81	90	28	24	21	0	122	76	1.6	9	22.8	17	29	8	2	21	7.0	
FAIRBANKS	133	1002.4	1021.1	-22.8	-29.3	-26.1	-2.5	-5.6	26	-46.7	13	0	31	-29.4	72	20	4	8	10	0	366	508	0.3	35	3.6	22	26+	5	7	19	7.2	
GULKANA	479			-20.9	-28.8	-24.9	-4.3	-3.3	27+	-43.9	9	0	31			6	-13	2	6		25	178										
HOMER	19			-4.9	-11.6	-8.2		3.9	23+	-20.6	13	0	31			3	-55	2	4	0	10	127			8.0	7	14	12	3	16	5.4	
JUNEAU	4	1012.2	1013.1	-4.6	-10.0	-7.3	-4.7	3.3	27	-21.7	8	0	29	-11.1	76	55	-60	19	15	0	422	330	2.8	10	10.7	11	5	10	2	19	6.4	40
KING SALMON	15	1012.2	1014.0	-8.1	-15.7	-11.9	-0.6	5.6	29+	-31.7	17	0	28	-16.7	69	26	0	13	8	0	114	127	1.0	3	13.9	15	29	11	6	14	5.8	
KODIAK	4	1007.1	1011.3	0.3	-5.6	-2.7	-1.5	3.9	22+	-13.9	12	0	29	-7.2	71	31	-97	8	12	0	358	229	4.2	31	20.1	32	14	11	4	16	6.0	
KOTZEBUE	3	1017.3	1017.7	-13.7	-20.6	-17.2	2.8	0.6	29	-35.0	18	0	31		81	13	5	3	6	0	142	178	4.0	9	23.7	17	29	11	4	16	5.9	
MC GRATH	105	1005.8	1019.4	-17.6	-27.1	-22.3	0.6	9.4	29	-46.7	14+	0	31	-25.6	74	41	15	11	14	0	559	533	0.5	13	13.0	19	29	11	3	17	6.1	
NOME	4	1014.9	1015.7	-8.6	-17.8	-13.2	2.2	1.1	29+	-32.2	17	0	31	-16.1	77	46	27	16	13	0	594	635	2.1	9	23.2	16	29	11	2	18	6.4	30
ST. PAUL ISLAND	7			1.2	-2.2	-0.5	1.8	5.0	18	-8.9	15+	0	23			17	-35	3	17	0	99	51			25.0	16	29	1	4	26	8.8	
TALKEETNA	105			-9.7	-19.2	-14.4	-1.7	0.0	24	-30.0	19+	0	31			40	-4	13	9	0	719	762			13.0	3	14					
UNALAKLEET	5			-12.6	-21.2	-16.9		2.8	29	-40.0	15	0	31			14		4	12		165	203			17.4	10	18	13	1	17	5.6	
VALDEZ	11	1012.2	1013.2	-4.9	-9.6	-7.2	-0.3	1.7	26	-17.8	9	0	31	-13.3	65	64	-69	44	7	0	1046	889	3.6	6	19.7	35	3	10	4	17	6.2	
YAKUTAT	9	1009.5	1010.5	-3.7	-11.2	-7.4	-4.5	4.4	26	-21.7	10+	0	29	-11.7	73	200	-127	78	11	0	1067	813	2.2	8	10.3	7	14+	13	6	12	5.2	
ARIZONA																																
FLAGSTAFF	2135	787.7	1018.5	10.7	-4.5	3.1	4.3	19.4	3	-11.7	13	0	27	-6.1	60	30	-25	15	7	0	41	T	1.3	24	12.1	NE	20	11	5	15	5.8	
PHOENIX	339	974.0	1017.1	21.9	9.0	15.5	4.1	27.2	11	4.4	20	0	0	-1.1	40	14	-7	12	3	1	0	0	1.4	10	11.6Y	E	21	14	3	14	5.2	63
TUCSON	784	927.9	1016.3	20.3	7.3	13.8	2.7	25.6	11+	2.2	20	0	0	-1.1	44	34	10	21	6	0	0	0	1.5	14	18.8	SE	21	14	3	14	5.3	78
WINSLOW	1492	852.7	1019.7	13.8	-3.2	5.3	4.3	21.7	7	-12.8	21	0	25	-7.2	48	3	-12	2	5	0	T	T	1.2	20	15.6	23	15	12	7	12	5.7	
YUMA	59	1009.1	1016.6	21.9	9.4	15.7	2.2	26.7	15+	6.1	17	0	0	2.8	51	15	6	10	5	0	0	0	1.6	36	11.6	N	19	12	5	14	5.3	67
ARKANSAS																																
FORT SMITH	136	1000.3	1017.5	10.8	-2.2	4.3	-0.9	21.1	24+	-10.0	26+	0	18	-3.3	64	33	-40	20	5	2	T	0	0.8	34	15.6	SW	16	10	8	13	5.9	50
LITTLE ROCK	78	1007.8	1017.7	10.8	0.3	5.6	0.2	21.1	19	-7.8	10	0	13	-1.1	66	36	-68	14	5	3	0	0	1.1	26	13.4	E	8	7	9	15	6.3	
CALIFORNIA																																
BAKERSFIELD	145	1001.0	1018.8	18.9	9.0	13.9	5.1	23.9	17	3.3	10	0	0	7.8	72	46	27	29	9	0	0	0	0.5	10	20.6	13	20	5	4	22	7.5	
BISHOP	1252	875.4		13.1	-2.0	5.6	1.7	22.8	5+	-6.7	22	0	27			64	38	39	6		114	102			22.4Y		21	11	8	12	5.6	
BLUE CANYON	1609	838.5	1017.1	8.7	1.2	4.9	1.0	16.7	5	-6.7	19	0	13	-3.3	64	477	165	108	16		767	229			11.2	21	23+					
EUREKA C	13			14.2	6.9	10.6	1.3	21.7	20	0.0	19	0	1			168	1	47	21		0	0			21.0	S	20	3	8	20	8.1	22
FRESNO	100	1007.1	1019.1	15.4	6.0	10.7	3.1	19.4	21	0.6	10+	0	0	7.8	84	77	33	28	11	0	0	0	0.4	8	12.5	14	21	2	7	22	8.0	38
LONG BEACH	8	1015.9	1017.2	20.6	11.8	16.2	3.2	29.4	1	5.6	19	0	0	10.6	76	77	35	38	9	0	0	0	0.4	13	10.7	6	20	3	8	20	7.7	
LOS ANGELES	30	1013.5	1017.1	19.6	12.6	16.1	2.7	26.7	1	7.2	19	0	0	10.6	78	100	55	46	9	0	0	0	0.2	13	14.3Y	W	21	4	9	18	7.6	
LOS ANGELES C	82			20.3	11.7	16.0	1.5	27.2	1	6.7	19	0	0			119	65	54	8		0	0										
MT SHASTA C	1077	893.0	1019.2	7.7	-2.6	2.6	0.6	14.4	5	-13.3	19	0	23			200	41	56	17		493	279			6.7	19	20					
OAKLAND	2	1018.3	1018.4	15.0	9.4	12.2	2.3	17.2	23+	6.1	9	0	0	9.4	84	99	6	27	15	0	0	0	0.9	14	12.5	16	16	4	10	17	7.2	
RED BLUFF	104	1005.4	1018.2	14.2	5.7	9.9	1.9	20.6	5	0.0	18	0	1	5.6	78	118	18	31	12	1	0	0	0.4	26	17.9	S	14	9	4	18	7.1	46
SACRAMENTO	5	1017.6	1018.5	13.1	6.4	9.8	2.1	18.3	1	1.7	19+	0	0	7.2	87	108	29	31	12	1	0	0	0.8	15	13.4	SE	21	2	7	22	8.3	16
SANDBERG R	1377	863.5	1017.3	12.3	4.7	8.5	3.0	23.3	6	-2.2	19	0	3	-2.8	53	139	88	95	7		98	0	2.2	4	21.9	12	20					
SAN DIEGO	4	1015.9	1017.1	20.5	14.2	17.4	3.7	27.8	1	10.6	13	0	0	10.6	70	42	-2	14	9	0	0	0	0.3	25	9.4	E	20	9	2	20	7.0	61
SAN FRANCISCO	2	1017.3	1018.1	14.5	8.1	11.3	1.4	17.2	21+	3.3	19	0	0	8.9	86	94	-7	24	14	0	0	0	0.7	21	17.4	18	21	3	11	17	7.3	
SAN FRANCISCO C	16			15.0	10.4	12.7	1.6	17.8	23+	7.2	19	0	0			84	-22	25	15			0										
SANTA MARIA	72			19.6	8.3	13.9	2.9	28.9	5	2.2	16	0	0			107	55	59	10		0	0						8	9	14	6.2	
STOCKTON	7	1018.0	1019.0	14.4	5.9	10.2	2.6	19.4	2+	0.0	9	0	1	7.8	89	62	-6	14	12	0	0	0	1.1	17	13.4	16	21+	0	6	25	8.7	
COLORADO																																
ALAMOSA	2297			6.4	-14.8	-4.2	2.9	15.0	7	-22.2	21	0	31			4	-5	3	2		99	76	1.0	28				11	9	11	5.3	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Ice pellets: Total	Precipitation: Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
COLORADO																																
COLORADO SPRINGS	1873	806.3	1014.2	8.6	-5.7	1.4	2.0	17.2	11+	-14.4	9	0	27	-12.2	41	5	-2	3	4	0	76	51	1.9	34	18.3	30	24	8	12	11	5.6	
DENVER	1610	831.4	1011.9	9.5	-6.1	1.7	1.4	19.4	11	-17.8	9+	0	22	-11.1	43	1	-10	1	2	0	18	25	1.1	28	18.3	W	24+	8	10	13	6.1	59
GRAND JUNCTION	1476	852.7	1019.7	6.3	-4.8	0.7	2.1	12.2	15+	-11.1	21	0	29	-6.7	65	10	-4	4	4	0	64	25	0.4	4	12.5	NW	18	6	7	18	6.9	57
PUEBLO	1428	851.7	1013.8	11.4	-7.0	2.2	1.7	22.2	11+	-15.6	26+	0	24	-8.9	53	1	-7	T	2	0	8	T	1.7	30	21.9	W	22	8	11	12	5.9	75
CONNECTICUT																																
BRIDGEPORT	2			3.9	-2.3	0.8	-0.2	11.7	2	-11.7	11	0	19			131	44	35	12		89	76			15.6	7	21	10	5	16	6.0	
HARTFORD	52	1009.1	1015.9	1.7	-6.2	-2.2	-0.1	8.9	3+	-17.8	12	0	28	-7.2	69	144	41	38	13	0	320	127	1.6	31	14.3	NW	10	9	6	16	6.2	49
DELAWARE																																
WILMINGTON	23	1013.9	1017.1	5.2	-3.7	0.8	-0.7	13.3	14	-12.8	27	0	23	-5.0	66	148	63	52	13	0	23	25	1.7	30	13.9	30	9	8	5	18	6.8	
DIST. OF COLUMBIA																																
WASHINGTON DULLES	88	1005.1	1017.3	5.8	-4.8	0.6	-0.6	13.9	14+	-13.9	29+	0	25	-4.4	68	124	36	80	11	0	28	T	1.4	29	17.0	29	7	9	7	15	6.3	
WASHINGTON NATIONAL	3	1014.9	1017.4	7.5	-0.8	3.4	0.4	15.0	14+	-8.9	27	0	14	-3.3	63	123	46	73	13	0	5	T	1.5	29	17.9	NW	25+	9	7	15	6.3	43
FLORIDA																																
APALACHICOLA U	6	1019.0	1019.5	17.4	6.1	11.8	-1.1	25.6	5	-2.2	27	0	8	7.2	76	94	9	27	10	4	0	0	0.9	4	11.2	N	6	11	4	16	6.0	56
DAYTONA BEACH	9	1017.6	1019.0	19.8	9.4	14.6	-0.7	27.8	5+	-0.6	28	0	2	9.4	73	120	71	18	15	3	0	0	0.8	29	10.3	36	10+	9	6	16	6.5	
FORT MYERS	5	1018.3	1018.5	23.0	11.8	17.4	-0.8	28.9	1	1.7	23	0	0	12.2	75	70	37	34	8	2	0	0	1.0	4	9.8	29	18	9	8	14	5.8	
JACKSONVILLE	8	1018.6	1019.6	17.8	5.8	11.8	-1.2	26.1	14+	-3.9	27	0	10	6.7	74	86	20	30	12	3	0	0	1.0	29	12.5	W	1	13	3	15	5.8	50
KEY WEST	1	1017.3	1017.8	23.3	18.2	20.8	-1.2	27.2	4+	10.0	23	0	0	16.7	78	113	74	49	10	2	0	0	2.4	7	9.8	35	21+	7	12	12	5.9	75
LAKELAND U	65			20.7	10.3	15.5	-1.2	30.0	1	1.1	27	0	0			65	12	20	10		0	0						11	7	13	5.8	47
MIAMI	2	1018.3	1018.6	24.7	16.4	20.6	0.4	28.9	2	6.1	28+	0	0	15.6	75	65	23	19	10	0	0	0	0.7	4	14.3	33	21	6	9	16	6.5	54
ORLANDO/MC COY AFB	29	1015.2	1019.2	21.8	10.4	16.1	-0.3	29.4	1	-0.6	28	0	1	10.6	75	94	46	22	11	3	0	0	0.6	35	11.2	29	6	11	4	16	6.3	
PENSACOLA	34	1014.9	1019.2	16.8	5.9	11.4	-0.7	25.6	5	-4.4	27	0	6	5.6	70	61	-57	27	9	2	0	0	0.4	2	10.3	2	9+	12	5	14	5.8	
TALLAHASSEE	17	1017.3	1019.7	17.7	3.4	10.6	-1.2	27.2	5	-6.7	27	0	11	6.1	77	153	46	43	12	2	0	0	0.4	35	13.4	27	25	10	7	14	6.0	
TAMPA	6	1018.6	1019.0	20.1	9.6	14.8	-1.6	26.1	1	-1.1	27	0	2	10.6	78	86	31	20	11	2	0	0	1.1	5	10.3	34	6	11	5	15	6.4	60
WEST PALM BEACH	5	1017.6	1018.4	24.6	14.6	19.6	0.3	30.6	2	3.9	28	0	0	13.9	72	187	131	68	10	4	0	0	0.3	36	10.7	7	11	6	11	14	6.4	
GEORGIA																																
ATHENS	244	988.2	1017.8	11.5	1.1	6.3	-0.4	25.0	5	-8.3	7	0	15	0.0	69	56	-54	17	9	2	T	T	1.6	27	9.4	19	24+	8	11	12	6.1	
ATLANTA	308	980.7	1018.1	11.3	-0.1	5.6	-0.6	23.9	5	-9.4	7	0	15	-1.7	64	60	-48	26	11	2	T	T	1.0	30	14.3	31	6	9	10	12	6.0	60
AUGUSTA	41	1013.2	1018.7	14.1	1.6	7.9	-0.1	25.0	5	-8.3	29	0	12	1.7	70	76	-10	25	10	3	0	0	1.5	26	13.0	30	6	10	9	12	5.5	
COLUMBUS	117	1004.7	1019.2	15.0	2.5	8.8	0.1	27.8	5	-5.6	29+	0	14	2.8	71	90	-35	31	10	2	T	0	0.4	29	8.0	10	17+	10	11	10	5.2	
MACON	108	1006.1	1019.3	14.6	2.2	8.4	-0.7	26.7	5	-7.8	29	0	15	3.3	75	97	-13	29	11	3	T	0	1.1	27	12.5	NW	9	10	10	11	5.5	59
ROME	194			11.1	-1.0	5.1	-0.5	23.9	5	-10.6	7	0	17			50	-76	25	8		T	0										
SAVANNAH	14	1017.3	1019.1	15.7	4.2	10.0	-0.2	23.3	4	-5.0	29	0	10	3.3	67	147	64	41	14	3	0	0	1.3	28	13.4	NW	6	10	6	15	6.0	51
HAWAII																																
HILO	8	1014.6	1015.6	28.0	18.3	23.2	1.2	32.8	6	12.8	23	1	0	17.8	77	68	-333	24	18	0	0	0	0.3	30	10.7	SE	6	8	14	9	5.6	48
HONOLULU	2	1014.9	1015.3	28.0	19.9	23.9	0.8	31.7	13	16.1	22+	0	0	17.8	70	37	-57	10	8	0	0	0	2.4	7	12.5	NE	19+	10	13	8	5.3	60
KAHULUI	15	1012.9	1015.1	27.4	19.1	23.3	0.7	30.0	9+	15.0	26	0	0			71	-1	20	12	0	0	0	2.8	4	13.4	NE	15	12	12	7	5.0	61
LIHUE	31	1010.8	1016.1	26.7	19.4	23.1	0.6	29.4	1	16.7	22+	0	0	17.2	73	125	-36	47	16	0	0	0	2.1	5	12.1	NE	18	6	12	13	6.2	42
IDAHO																																
BOISE	865	916.0	1017.9	6.4	-0.6	2.9	2.9	12.2	3	-13.3	31	0	19	-2.2	69	62	28	18	15	1	112	51	0.9	13	16.5	W	15	1	8	22	8.5	24
LEWISTON	431			5.2	0.1	2.7	1.1	15.6	2	-15.0	31	0	17			53	21	11	17		229	127			26.8Y		6	2	3	26	8.8	
POCATELLO	1358	862.2	1017.9	3.8	-2.9	0.5	3.3	10.0	3	-15.0	21	0	22	-4.4	70	27	2	8	11	0	107	T	4.3	23	15.2	SW	15+	0	5	26	9.0	24
ILLINOIS																																
CAIRO U	96			6.9	-0.8	3.1	-0.9	16.7	17+	-12.2	10	0	16			76	-24	31	8		5	T			16.1	NW	5					43
CHICAGO O HARE	201	988.5	1013.7	-0.3	-8.4	-4.3	-1.6	13.3	17	-21.7	11+	0	26	-7.8	78	50	8	24	10	0	323	152	2.7	24	13.4	27	9+	2	10	19	7.9	
CHICAGO MIDWAY	185	990.9	1014.3	-0.1	-8.1	-4.1	-2.1	15.6	17	-21.7	10	0	25	-8.3	72	60	7	21	8	2	488	229	2.6	24	14.3	SW	1	2	10	19	7.5	29
MOLINE	177	992.6	1014.9	-1.7	-9.7	-5.7	-2.7	11.1	17	-22.8	10+	0	28	-10.6	69	45	0	11	8	0	528	203	2.4	26	16.1	W	9	5	8	18	7.1	23
PEORIA	199	990.5	1015.4	-0.9	-9.3	-5.1	-2.9	12.2	17	-23.3	10	0	28	-8.9	76	57	9	13	9	0	551	254	2.0	23	13.4	NW	24+	4	11	16	7.1	45
ROCKFORD	221	986.5	1014.6	-2.7	-10.8	-6.7	-2.8	10.0	17	-25.0	11	0	29	-10.0	77	47	4	14	9	0	592	330	1.7	25	12.5	34	24+	5	7	19	7.4	
SPRINGFIELD	179	992.9	1015.9	1.2	-6.8	-2.8	-1.9	12.8	17	-20.0	10	0	27	-6.1	79	57	8	17	13	0	276	127	2.3	23	16.1	NW	24	5	10	16	7.1	46
INDIANA																																
EVANSVILLE	116	1002.7	1017.2	5.3	-3.7	0.8	-1.0	15.6	24+	-14.4	10+	0	21	-2.8	77	81	-3	30	11	2	43	25	1.7	24	14.3	W	20	6	9	16	7.0	45

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
INDIANA																																
FORT WAYNE	241	984.1	1015.0	0.4	-7.8	-3.7	-1.8	10.6	1	-23.9	11	0	23	-7.8	73	72	16	25	15	0	467	381	3.4	24	17.9	SW	20	3	7	21	8.0	37
INDIANAPOLIS	241	986.1	1016.1	2.9	-6.1	-1.6	-0.9	13.9	17+	-22.8	11	0	23	-5.6	78	109	41	30	14	1	386	254	2.2	22	13.4	NW	24	5	10	16	7.2	39
SOUTH BEND	236	984.8	1013.5	0.4	-7.2	-3.4	-1.3	12.2	17	-20.0	9	0	23	-6.7	79	93	30	30	17	0	853	432	3.3	23	13.4	30	24	1	3	27	8.8	
IOWA																																
BURLINGTON	211			-0.7	-9.0	-4.8	-2.4	11.7	17+	-21.1	10	0	28			33	-7	9	13	0	452	229	1.6	27	12.5	31	25+	2	13	16	7.3	
DES MOINES	286	978.7	1014.9	-0.9	-8.9	-4.9	-1.0	11.7	15	-20.6	9	0	27	-9.4	70	46	18	15	9	1	559	203	1.8	29	16.5	NW	9	6	8	17	7.1	39
DUBUQUE	322	973.9		-4.3	-11.9	-8.1	-3.1	8.3	17	-26.1	10	0	30			63	14	14	10	0	671	381										
SIOUX CITY	334	974.3	1015.8	-0.9	-9.5	-5.2	-0.5	11.7	15	-21.7	9	0	29	-11.1	65	25	6	15	9	1	195	51	2.3	33	17.9	NW	8	7	8	16	6.6	56
WATERLOO	265	981.7	1015.1	-4.4	-12.5	-8.4	-2.8	7.2	17	-26.1	7	0	28	-12.2	72	44	14	16	9	0	429	305	1.7	30	15.6	31	9	3	6	22	7.6	
KANSAS																																
CONCORDIA	448	961.1	1015.4	5.0	-7.5	-1.2	-0.3	15.0	15	-18.9	9	0	30	-8.3	62	1	-19	1	3	0	5	T	1.3	29	18.8	NW	17	14	6	11	5.0	75
DODGE CITY	787	922.5	1015.0	9.4	-5.4	2.0	1.2	20.6	3	-16.7	9	0	26	-7.8	57	19	6	19	3	0	T	T	1.6	28	17.4	N	8	13	7	11	5.1	72
GOODLAND	1114	884.2	1014.2	8.1	-8.8	-0.3	0.7	20.6	3	-21.7	9	0	29	-11.1	51	4	-7	3	4	1	15	T	2.6	30	20.1	33	20	9	10	12	5.5	
TOPEKA	267	983.1	1016.0	5.3	-7.5	-1.1	-0.9	18.3	16	-17.8	9	0	27	-7.2	67	7	-32	3	6	0	5	T	1.0	28	15.2	SW	22	13	6	12	5.3	63
WICHITA	403	967.2	1016.1	8.2	-4.9	1.7	0.3	18.3	16	-14.4	9	0	24	-5.6	64	5	-24	4	2	0	T	T	1.3	28	17.9	NW	20	14	5	12	5.1	68
KENTUCKY																																
COVINGTON	265	983.7	1016.3	3.1	-6.8	-1.8	-2.8	15.0	16	-20.6	11	0	22	-4.4	83	102	29	30	15	4	160	76	2.8	23	11.6	24	1	4	6	21	8.0	
LEXINGTON	294	980.4	1016.9	5.8	-4.3	0.8	-1.2	17.2	16	-18.3	7	0	18	-3.3	76	77	-15	42	14	1	76	51	2.6	21	13.0	25	5	3	4	24	8.3	
LOUISVILLE	145	998.6	1016.8	6.3	-3.4	1.4	-0.6	16.1	1	-15.0	7	0	18	-3.3	74	110	25	39	12	4	56	51	2.1	23	15.2	SW	5	3	7	21	8.0	39
LOUISIANA																																
BATON ROUGE	20	1016.6	1019.3	16.8	6.1	11.5	-0.1	26.7	5+	-2.2	22	0	6	5.0	67	74	-54	32	6	2	0	0	0.3	15	11.2	2	9	10	11	10	5.4	
LAKE CHARLES	3	1017.6	1018.6	17.5	6.2	11.8	-0.6	26.1	5+	-2.8	22	0	4	7.2	76	81	-64	44	5	1	0	0	0.7	10	13.0	29	13+	12	8	11	5.1	
NEW ORLEANS	1	1018.0	1018.9	18.1	6.7	12.4	-0.3	27.8	5	-3.9	27	0	4	7.8	75	105	-25	65	8	1	0	0	0.1	13	10.3	36	9	9	11	11	5.6	54
SHREVEPORT	77	1008.5	1017.7	15.1	1.9	8.5	-1.1	26.7	19+	-8.3	22	0	13	2.2	69	66	-41	37	7	2	0	0	0.7	21	13.0	18	8	11	9	11	5.5	55
MAINE																																
CARIBOU	190	990.2		-4.9	-11.9	-8.4	0.4	4.4	25	-28.9	13	0	31			91	25	32	15		958	635						4	7	20	7.6	
PORTLAND	13	1012.9	1015.4	1.1	-8.4	-3.7	-0.2	11.1	25	-26.1	12	0	31	-8.3	73	168	65	45	13	0	587	533	1.8	32	13.9	SE	21	12	3	16	5.9	55
MARYLAND																																
BALTIMORE	45	1011.5	1017.2	6.8	-2.8	2.0	0.2	15.0	14	-12.2	27	0	19	-5.0	62	146	64	86	13	0	13	T	1.6	29	15.6	W	9	8	8	15	6.4	48
MASSACHUSETTS																																
BLUE HILL OBS R	192			2.2	-5.6	-1.7	-0.4	11.1	21	-17.8	12	0	26			160	40	45	14		193	102			19.7	NE	5					47
BOSTON	5	1014.6	1015.6	4.8	-2.4	1.2	0.7	12.8	21	-15.0	12	0	19	-3.9	72	157	50	39	16	0	132	51	2.4	30	17.4	NE	6	12	4	15	5.8	46
WORCESTER	301	976.6		0.2	-6.9	-3.3	-0.7	8.9	15+	-19.4	12	0	29			127	27	32	15	0	348	178	2.0	30	14.3	28	10	9	5	17	6.4	
MICHIGAN																																
ALPENA	210	986.1	1012.4	-1.6	-9.2	-5.3	-0.6	6.1	1	-27.8	11	0	28	-8.3	79	58	11	19	22	0	663	406	1.2	21	12.1	W	25	3	3	25	8.7	19
DETROIT	189			1.2	-4.7	-1.7	-0.4	12.2	1	-15.6	11+	0	22	-6.1	74					1			3.1	22	14.8	23	1					
DETROIT METRO	193	988.8	1013.7	0.0	-7.3	-3.6	-1.7	11.7	1	-22.8	11	0	24	-6.7	81	78	18	19	15	2	422	279	2.5	23	15.2	NW	25+	3	7	21	8.1	34
FLINT	235	984.1	1012.7	0.0	-6.9	-3.4	-0.6	12.8	1	-22.2	11	0	23	-5.6	84	37	-5	12	15	0	251	127	2.7	21	14.3	29	25	3	2	26	8.5	
GRAND RAPIDS	239	982.7	1012.7	0.2	-7.0	-3.4	-0.8	8.9	16	-17.2	11	0	27	-6.1	82	85	30	25	16	0	589	203	1.9	21	17.0	WSW	1	1	2	28	9.1	19
HOUGHTON LAKE	351	968.5	1012.0	-2.4	-9.4	-5.9	-0.7	3.3	17+	-26.7	11	0	31	-7.8	86	56	10	17	17	0	356	178	0.9	22	11.2	10	17	1	7	23	8.5	
LANSING	256	980.0	1012.9	-0.3	-7.2	-3.7	-1.0	9.4	16+	-18.9	27	0	23	-5.6	88	58	8	25	18	1	338	127	2.5	23	15.2	E	17+	2	4	25	8.7	23
MARQUETTE C	206			-3.1	-8.0	-5.6	-0.8	4.4	17	-18.9	26	0	29			82	32	13	21		973	584			14.3	SW	12					25
MUSKEGON	191	988.8	1012.6	-0.7	-5.8	-3.2	-1.3	8.9	16	-14.4	26	0	25	-5.6	82	101	39	26	19	0	1405	533	1.0	26	14.8	25	1	0	2	29	9.5	
SAULT STE MARIE	221	984.4	1011.8	-3.7	-9.8	-6.8	-0.2	2.2	16	-28.9	27	0	27	-8.9	83	87	27	24	23	0	1064	711	1.1	10	15.6	NW	25	4	4	23	8.2	18
MINNESOTA																																
DULUTH	435	959.7	1013.5	-7.8	-15.3	-11.5	-1.7	2.2	18+	-32.8	11	0	29	-15.0	74	33	-2	28	7	0	305	330	2.0	31	17.9	NE	17	3	6	22	8.2	30
INTERNATIONAL FALLS	359	969.2	1015.1	-11.2	-20.4	-15.8	-2.8	2.8	17	-38.3	10	0	30	-20.0	67	24	-1	5	14	0	246	457	0.8	31	9.8	12	17	7	4	20	7.2	
MINNEAPOLIS	254	983.1	1015.0	-6.2	-13.4	-9.8	-2.3	5.0	17	-27.8	10	0	29	-12.8	75	29	7	12	11	0	361	229	1.4	31	11.6	NW	25	5	4	22	7.5	30
ROCHESTER	395	964.4	1014.4	-5.9	-13.7	-9.8	-2.6	5.6	17	-28.9	10	0	29	-12.2	80	40	20	11	11	0	478	305	2.1	29	17.0	30	9	3	7	21	7.9	
ST CLOUD	313	975.6		-7.5	-16.0	-11.7	-2.7	3.9	17	-32.2	10	0	29			36	14	16	11		305	178						6	5	20	7.3	
MISSISSIPPI																																
JACKSON	94	1006.8	1018.9	14.8	2.4	8.6	-0.8	25.6	4	-6.7	26	0	14	3.3	71	88	-40	29	6	3	0	0	0.7	18	10.3	18	8	10	12	9	5.7	56

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m s		m/s							%
MISSISSIPPI																																
MERIDIAN	88	1007.8	1014.1	15.6	2.3	9.0	0.2	25.6	4	-5.6	22+	0	14	2.2	65	43	-99	16	6	3	0	0	0.7	24	10.3	1	9+	9	10	12	6.0	
MISSOURI																																
COLUMBIA REGIONAL	270	982.7	1015.9	3.8	-5.2	-0.7	-1.1	18.3	15	-17.8	10	0	23	-5.0	74	31	-14	18	10	1	147	76	1.4	24	15.2	NW	31+	6	9	16	6.6	44
KANSAS CITY	309	977.7	1015.7	3.6	-6.4	-1.4	-1.6	17.2	16+	-17.8	10+	0	26	-7.2	67	9	-29	4	9	0	30	25	1.4	25	12.5	SW	22	12	7	12	5.5	54
ST JOSEPH	247			3.6	-6.5	-1.4	-0.7	18.3	16	-18.9	9	0	28			18	-16	6	6		102	51										
ST LOUIS	163	995.6	1016.5	3.9	-5.6	-0.8	-2.2	15.6	15	-17.8	10	0	24	-4.4	80	59	8	26	12	1	297	178	1.9	25	16.1	NW	24+	6	10	15	6.6	45
SPRINGFIELD	386	969.5	1016.0	7.2	-3.3	1.9	-0.3	17.8	15	-13.9	9	0	19	-5.0	63	42	-21	23	11	2	10	T	1.9	22	14.3	SW	17+	9	8	14	5.9	54
MONTANA																																
BILLINGS	1087	867.2	1015.7	-2.3	-10.7	-6.5	-3.6	9.4	14+	-29.4	9	0	28	-11.1	71	42	25	12	13	0	460	127	2.9	26	20.1	NW	14	7	6	18	6.9	33
GLASGOW	696	931.6	1017.8	-9.2	-17.2	-13.2	-4.9	3.9	14	-38.9	9	0	31	-15.6	80	22	14	6	17	0	335	152	0.9	1	13.4	11	6+	3	9	19	7.7	
GREAT FALLS	1116	884.9	1017.8	-3.7	-13.5	-8.6	-5.6	11.1	11	-32.8	8	0	26	-12.8	69	49	31	12	16	0	462	229	3.4	24	20.1	SW	3	7	6	18	7.0	29
HAVRE	788	921.1	1017.4	-6.1	-16.1	-11.1	-3.4	8.9	11	-38.3	9	0	29	-13.9	77	52	41	20	15	0	638	178	2.3	26	17.9	NW	3	2	11	18	7.7	32
HELENA	1167	877.8	1017.6	-0.8	-11.8	-6.3	-1.4	11.7	11	-28.9	31	0	26	-12.8	60	38	23	10	15	0	495	178	2.1	27	15.2	NW	11	4	5	22	7.6	38
KALISPELL	904	909.6	1017.8	-2.9	-11.1	-7.0	-2.4	7.2	3	-29.4	31	0	27	-10.6	73	90	53	18	21	0	826	279	0.2	7	13.4	3	29	2	3	26	9.0	
MILES CITY	801	919.7	1017.0	-5.4	-14.4	-9.9	-4.3	5.6	14	-37.2	9	0	30	-13.3	77	31	19		16	0	376		1.8	32								
MISSOULA	972	902.1	1017.2	-0.6	-7.7	-4.2	-0.1	6.7	3	-23.9	31	0	28	-5.6	87	73	44	19	19	0	523	178	0.4	31	15.2	NW	7	3	2	26	9.0	23
NEBRASKA																																
GRAND ISLAND	561	947.2	1015.5	2.8	-8.9	-3.1	-0.3	17.8	15	-21.1	9	0	30	-9.4	64	11	-3	4	5	0	196	76	1.9	31	13.4	33	17	10	9	12	5.6	
LINCOLN	359	971.6	1015.6	2.1	-9.8	-3.8	-1.2	15.0	15	-21.1	9	0	31	-9.4	69	9	-11	4	6	0	94	51	1.7	31	17.0	NW	20	10	9	12	5.7	56
NORFOLK	471	957.7	1015.6	-0.3	-10.5	-5.4	-1.1	13.3	15	-23.3	9	0	31	-11.7	65	13	-3	3	9	0	226	102	3.0	32	19.2	NW	20+	7	9	15	6.5	
NORTH PLATTE	846	914.7	1015.7	4.3	-12.2	-3.9	-1.1	18.3	15	-25.0	9	0	30	-10.0	67	31	21	16	8	0	163	76	1.8	32	18.8	NW	20	6	13	12	6.3	70
OMAHA	298			1.7	-8.2	-3.2	-1.0	13.9	15	-20.0	9	0	27	-8.9	67	9	-12		4	1	102		1.6	32								
OMAHA (NORTH) WSFO	399			0.3	-9.3	-4.5	-1.0	13.3	15	-22.2	9	0	29			16	-4	4	11	1	188	76			15.6	NW	24	10	6	15	6.0	52
SCOTTSBLUFF	1206	875.0	1014.8	4.7	-8.8	-2.1	0.4	16.7	3	-30.0	9	0	28	-9.4	60	21	11	13	5	0	300	203	2.8	32	17.0	32	20	5	10	16	6.7	
VALENTINE	789	920.4		-0.3	-13.3	-6.8	-2.6	15.6	14	-27.8	9	0	31			25	18	13	13		211	51	2.5	31	18.8	NW	20	7	9	15	6.6	59
NEVADA																																
ELKO	1539	844.9	1018.6	6.8	-3.9	1.5	4.9	16.1	2	-16.1	19	0	23	-6.7	58	23	-6	6	12	0	135	51	1.4	24				4	9	18	7.5	
ELY	1906	808.7	1019.4	7.7	-9.1	-0.7	2.6	15.6	14	-27.2	20	0	31	-11.7	50	23	5	12	10	0	201	127	2.6	21	14.3	SE	15	7	8	16	6.6	
LAS VEGAS	659	941.1	1018.2	17.7	4.4	11.1	3.7	23.9	15+	-0.6	20	0	1	-3.9	41	27	18	24	6	0	0	0	1.4	25	17.9	NW	15	14	5	12	5.2	64
RENO	1342	866.2	1017.9	9.9	-3.0	3.5	2.9	20.0	2	-9.4	19+	0	26	-3.3	64	65	37	20	11	0	142	51	0.8	24	21.5	SW	15	5	9	17	6.9	74
WINNEMUCCA	1311	868.9	1018.0	10.1	-2.4	3.8	4.7	18.9	2	-12.2	8	0	23	-5.0	55	30	6	10	11	0	91	25	1.4	21	15.2	SW	15	6	6	19	7.2	44
NEW HAMPSHIRE																																
CONCORD	104	1002.7	1016.0	-1.1	-11.2	-6.1	-2.1	8.3	2	-26.1	12+	0	31	-10.0	74	102	19	27	10	0	513	330	1.5	31	14.8	W	10	10	5	16	6.3	45
MT WASHINGTON OBS	1909			-9.9	-18.1	-13.9	-1.1	0.6	15+	-34.4	12+	0	31			307	128	56	20	0	1864	406			57.7	W	10	2	4	25	8.7	25
NEW JERSEY																																
ATLANTIC CITY	20	1013.5	1016.1	7.1	-3.3	1.9	0.2	16.1	5+	-14.4	12	0	23	-3.3	67	119	17	25	14	0	T	T	1.9	27	15.6	27	9	9	6	16	6.4	36
ATLANTIC CITY U	3			6.1	-0.6	2.7	-0.4	14.4	5	-9.4	27	0	15			130	39	28	14						16.5	W	9					
NEWARK	2	1015.6	1016.5	4.5	-3.1	0.7	-0.7	12.8	21+	-11.7	27+	0	23	-3.9	73	121	33	24	13	0	5	T	1.8	29	14.3	26	9	11	5	15	6.1	
TRENTON U	17			4.8	-2.2	1.3	-0.3	13.3	14	-10.6	27	0	19			141	58	38	14		10	T			18.8	NW	9	8	5	18	6.6	40
NEW MEXICO																																
ALBUQUERQUE	1619	838.5	1017.7	11.9	-2.7	4.7	2.3	20.0	8	-11.1	21	0	26	-8.3	43	3	-10	3	2	0	T	0	1.1	33	18.8	NW	16	13	6	12	5.0	65
CLAYTON	1515			12.1	-4.6	3.8	2.1	22.2	3	-13.9	21	0	25			2	-6	2	2		5	T										
ROSWELL	1112	889.3	1014.8	17.2	-0.5	8.3	4.3	26.7	8+	-10.6	21	0	19	-8.3	34	1	-11	1	1	0	0	0	1.2	25	25.9	SW	16	13	10	8	4.7	79
NEW YORK																																
ALBANY	84	1005.4	1016.3	0.9	-6.8	-2.9	0.4	10.0	2	-21.1	12	0	30	-7.2	72	107	33	30	12	0	503	254	1.1	28	14.8	NW	10	7	4	20	7.3	33
BINGHAMTON	485	954.3	1014.9	-0.9	-7.4	-4.1	-0.4	8.3	1	-18.9	11	0	28	-8.3	73	123	53	26	18	0	808	432	2.1	23	15.2	W	9	4	3	24	8.0	31
BUFFALO	215	987.5	1013.8	0.8	-5.4	-2.3	0.0	15.0	1	-18.9	11	0	23	-5.6	80	204	128	47	25	1	1356	635	2.7	21	19.2	SW	9+	1	5	25	8.7	25
NEW YORK U	40	1013.2	1016.6	5.0	-0.9	2.1	0.1	13.3	14	-10.6	27	0	15	-5.0	63	129	39	31	9	0	10	T	2.0	30	12.5	W	9					
NEW YORK KENNEDY	4	1015.6	1016.4	4.2	-1.7	1.3	-0.3	12.2	21	-10.6	11	0	18	-3.9	69	125	34	28	14	0	25	T	2.5	30	17.4	28	9	12	3	16	6.0	
NEW YORK LA GUARDIA	3	1015.9	1016.8	5.0	-0.9	2.1	0.1	13.3	14	-9.4	27+	0	15	-5.0	63	123	31	26	14	0	8	T	2.2	30	24.1	NE	5	12	4	15	6.0	
ROCHESTER	167	993.6	1014.5	1.2	-5.2	-2.0	0.1	17.2	1	-21.1	11	0	23	-4.4	83	118	58	27	21	0	894	533	2.0	22	21.9	SW	25	2	5	24	8.5	24
SYRACUSE	125	999.7	1015.1	0.7	-5.9	-2.6	-0.4	14.4	1	-21.7	11	0	27	-6.7	75	110	31	44	18	0	1019	305	1.2	21	18.8	S	25	1	6	24	8.5	17

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Wind: Resultant speed	Wind: Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
NORTH CAROLINA																																
ASHEVILLE	652	939.7	1017.5	8.7	-3.4	2.7	-1.1	18.9	5	-15.0	7	0	21	-3.3	68	62	-29	22	13	2	38	25	1.5	33	11.6	34	9	9	9	13	6.1	44
CAPE HATTERAS R	2	1017.3	1017.7	13.8	4.8	9.3	0.6	22.8	5+	-3.9	28	0	10	5.0	75	152	37	58	11	3	0	0	2.1	30	10.3	29	6	10	4	17	6.2	38
CHARLOTTE	224	990.2	1018.1	10.6	1.1	5.8	0.0	18.9	5	-7.2	27+	0	14	-0.6	67	50	-37	20	10	1	T	T	0.8	29	10.7	W	6+	8	9	14	6.2	51
GREENSBORO	273	985.1	1017.7	8.9	-2.0	3.4	-0.8	17.2	15	-10.6	29+	0	19	-2.2	68	84	4	30	12	1	18	25	1.1	27	14.3	W	6	9	8	14	5.8	60
RALEIGH	132	1001.7	1017.8	10.0	-1.2	4.4	-0.7	19.4	1	-10.6	29+	0	17	0.0	76	94	16	30	12	1	T	0	0.8	26	14.3	25	5	10	8	13	5.8	57
WILMINGTON	9	1017.3	1018.5	14.4	2.9	8.7	0.1	23.3	4+	-6.1	28+	0	13	3.9	75	72	-13	23	9	1	T	0	1.3	27	13.0	SW	5+	10	5	16	6.0	51
NORTH DAKOTA																																
BISMARCK	502	954.3	1017.2	-8.0	-15.9	-11.9	-2.8	6.1	12	-30.6	9	0	31	-16.1	71	20	8	5	10	0	437	330	1.9	32	15.2	NW	20	4	7	20	7.7	45
FARGO	273	981.4	1016.0	-10.5	-17.9	-14.2	-3.6	1.7	16	-32.2	10+	0	31	-17.2	74	19	3	12	9	0	183	381	2.0	33	14.8	N	20	2	3	26	8.8	29
WILLISTON	579	945.1	1017.4	-8.3	-18.1	-13.2	-3.9	6.1	14	-38.3	9	0	31	-19.0	83	22	9	5	15	0	254	178	1.8	30	13.0	NW	24	2	5	24	8.2	43
OHIO																																
AKRON	368	909.5	1015.3	2.2	-6.4	-2.1	-0.6	15.0	1	-18.9	9	0	25	-6.7	70	104	43	27	14	1	490	305	3.4	22	15.6	23	1	1	3	27	8.9	
CINCINNATI ABBE OB	232			3.7	-5.8	-1.1	-2.4	15.6	16	-18.3	11+	0	23			87	14	24	11						11.2	SW	1					38
CLEVELAND	237	985.4	1015.6	3.0	-6.1	-1.6	-0.6	15.0	18+	-18.9	11	0	23	-3.9	83	89	29	36	18	0	587	330	3.9	21	15.6	21	1	2	4	25	8.7	10
COLUMBUS	247	985.1	1016.3	2.9	-5.7	-1.4	-0.7	15.6	1	-17.8	11	0	21	-6.1	71	90	29	26	19	1	191	76	2.7	22	17.0	SW	1	2	5	24	8.6	23
DAYTON	303	978.3	1015.7	3.0	-6.4	-1.7	-1.1	14.4	16	-21.1	11	0	23	-5.0	81	114	55	31	17	1	216	152	3.1	23	15.2	SW	1	2	5	24	8.2	34
MANSFIELD	395			1.8	-6.9	-2.6	-1.9	14.4	1	-20.6	11	0	23			105	51	37	12	0	427	254	4.3	22	17.9	22	1	3	3	25	8.6	
TOLEDO	204	988.5	1014.5	-0.2	-8.0	-4.1	-1.8	11.1	1	-24.4	11	0	25	-7.8	77	90	34	22	19	0	615	406	2.7	23	15.6	W	25	3	4	24	8.3	22
YOUNGSTOWN	359	971.2	1015.1	1.7	-6.2	-2.2	-0.4	14.4	1	-18.9	9	0	23	-5.6	80	95	30	30	19	0	472	305	3.1	22	13.4	26	9	2	3	26	8.8	
OKLAHOMA																																
OKLAHOMA CITY	392	969.5	1016.8	11.2	-2.3	4.4	0.0	22.2	3	-12.2	9	0	20	-5.6	53	9	-23	7	4	0	0	0	0.6	25	20.6	SW	16	11	8	12	5.5	62
TULSA	198	991.5	1016.4	10.4	-2.7	3.9	-0.4	23.3	16	-12.8	9	0	21	-4.4	60	24	-18	21	4	0	0	0	1.4	22	21.9	SW	16	12	8	11	5.3	56
OREGON																																
ASTORIA	2	1012.5	1013.3	9.2	4.0	6.6	0.6	13.3	13	-2.8	31	0	1	5.0	89	364	96	83	23	1	T	0	1.7	15	17.4	27	15	3	4	24	8.4	
BURNS	1265			4.8	-5.0	-0.1	2.2	11.7	6+	-18.3	20+	0	27			59	15	21	14		323	203			33.1Y	SW	15	3	7	21	7.9	
EUGENE	109	1001.7	1015.3	9.2	3.0	6.1	0.8	15.6	13	-3.9	19	0	9	3.9	87	371	177	77	22	0	0	0	1.6	18	14.3	22	15	0	2	29	9.6	
MEDFORD	396	968.5	1017.0	9.2	2.4	5.8	2.6	15.0	23	-3.3	20	0	12	2.8	84	122	28	29	17	1	5	T	0.2	16	14.3	22	15	0	4	27	9.0	
PENDLETON	452	962.1	1017.0	4.3	-1.2	1.6	-0.5	15.0	6+	-12.8	31	0	19	-1.7	80	61	23	13	16	0	292	254	2.3	25	15.6	24	15+	1	6	24	9.0	
PORTLAND	6	1013.5	1014.8	8.3	2.8	5.6	0.7	16.1	13	-2.8	22	0	7	2.8	81	228	75	66	22	0	T	0	3.5	15	19.2	SW	15	2	2	27	8.9	29
SALEM	60	1007.1	1014.5	9.3	3.1	6.2	1.3	15.6	13	-4.4	20+	0	10	3.3	83	222	48	39	24	0	0	0	2.0	18	13.4	24	15+	1	2	28	9.0	
SEXTON SUMMIT R	1169	881.5	1015.6	5.3	0.4	2.9	0.2	8.9	14+	-4.4	19	0	13	0.0	84	139	-19	24	20		406	229	4.6	16	26.4Y	S	15					
PACIFIC AREA																																
GUAM TAGUAC R	110			29.1	22.7	25.9	0.1	30.0	15+	18.9	15	0	0			56	-92	13	16		0	0			14.8	NE	29	5	14	12	6.3	56
JOHNSTON	2	1012.2	1012.8	27.3	23.9	25.6	0.3	28.9	11	21.1	6	0	0	21.1	76	45	-41	9	20	0	0	0	6.9	8	17.9	E	16	7	19	5	5.4	69
KOROR R	29	1006.1		31.6	24.6	28.1	0.7	32.8	6+	23.9	26+	11	0			198	-129	44	24	3	0	0	2.5	6	9.8	NE	30+	0	9	22	8.3	55
KWAJALEIN	7	1008.1		30.2	25.8	28.0	0.4	31.1	16+	23.9	31+	0	0			182	-53	46	18	1	0	0	4.7	5	11.6	21	26	4	4	23	8.4	
MAJURO	3	1008.1		30.0	24.6	27.3	0.0	31.7	26+	21.1	18	0	0			480	178	198	18		0	0	3.0	6	11.6	E	15	0	5	26	9.2	71
PAGO PAGO	4	1007.5	1007.7	30.3	25.3	27.8	1.2	32.2	25	23.3	21	1	0	23.9	79	174	-203	48	22	3	0	0	4.9	10	14.8	E	18	1	9	21	8.3	45
PONAPE R	37			31.4	23.7	27.6	0.6	32.2	28+	18.9	8	9	0			126	-279	37	21	0	0	0			8.5	E	30	0	10	21	8.6	41
TRUK MOEN ISLAND	2	1009.1		30.4	25.3	27.9	0.5	31.7	12	23.3	24+	0	0			82	-271	35	17	0	0	0	4.2	6	10.7	SE	30	0	0	31	9.8	48
WAKE	3	1013.5	1013.9	27.9	22.8	25.4	-0.5	30.0	11+	21.1	31+	0	0	20.6	79	35	-9	15	10	0	0	0	5.6	5	14.8	E	14	9	10	12	5.8	58
YAP R	13	1008.1		30.5	23.7	27.1	-0.1	31.7	10+	21.7	12	0	0			296	45	67	20	1	0	0	3.1	8	14.3	NE	1	1	10	20	7.8	33
PENNSYLVANIA																																
ALLENTOWN	118	1002.7	1017.1	2.3	-4.6	-1.1	-0.4	8.9	25	-14.4	12	0	26	-4.4	77	141	50	33	12	0	99	76	1.6	28	14.3	29	9	6	8	17	6.6	
ERIE	223	987.1	1014.7	1.4	-5.6	-2.1	-0.4	15.0	1	-16.7	9	0	24	-5.0	83	143	72	59	21	0	1295	660	4.4	21	16.1	16	8	1	3	27	9.3	
HARRISBURG	103	1004.1	1017.2	3.5	-3.9	-0.2	-0.6	10.6	25+	-11.7	27	0	25			122	44	36	10	0	140	25	1.5	29	15.2	W	9+	8	8	15	6.5	48
PHILADELPHIA	2	1015.9	1017.0	4.6	-3.9	0.3	-1.4	12.2	14	-12.8	27+	0	25	-5.0	68	132	47	44	11	0	5	T	1.7	31	17.0	NW	9	8	5	18	6.8	43
PITTSBURGH	347	970.5	1015.9	3.9	-4.9	-0.5	0.3	18.3	1	-15.6	28+	0	21	-5.6	69	83	20	34	18	1	231	178	2.7	23	13.9	26	1	1	8	22	8.4	30
SCRANTON	283	981.0	1016.3	2.2	-4.9	-1.3	0.3	10.0	1	-15.6	11	0	25	-5.0	76	87	24	20	13	1	249	127	1.3	24	14.8	W	9	4	8	19	7.6	38
WILLIAMSPORT	160	997.0	1016.6	1.9	-5.9	-2.0	-1.0	8.9	25+	-20.6	11	0	25	-7.2	69	107	28	34	13	0	447	203	0.9	28	13.4	28	9	4	7	20	7.7	
RHODE ISLAND																																
BLOCK ISLAND	34			4.9	-0.7	2.1	0.3	12.8	1	-11.7	11	0	13			154	50	39	14		20	T						6	11	14	6.7	

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Ice pellets		Resultant speed	Resultant direction	Fastest mile (1.6 kilometers)			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max 32.2 °C or above	Min. 0 C or lower						.25 mm. or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
RHODE ISLAND																																
PROVIDENCE	16	1013.5	1015.9	3.9	-4.3	-0.2	0.1	12.2	14	-15.6	12	0	24	-5.6	69	149	44	52	13	0	99	102	2.3	30	14.3	30	10	11	5	15	5.9	51
SOUTH CAROLINA																																
CHARLESTON	12	1017.3	1019.2	15.8	4.2	10.0	0.4	23.9	4	-5.6	29	0	11	4.4	71	149	70	45	12	3	0	0	1.7	26	13.4	29	6	11	5	15	5.8	68
CHARLESTON U	3			14.6	5.8	10.2	-0.4	21.7	4	-2.2	27	0	9			127	52	41	12		0	0										
COLUMBIA	65	1010.5	1018.6	13.0	0.8	6.9	-0.9	22.2	1	-9.4	29	0	15	0.6	69	94	8	24	11	2	0	0	1.2	27	12.1	28	6	9	9	13	5.7	68
GRNVLLE-SPRTNBRG	292	982.4	1017.8	10.8	1.2	6.0	-0.1	20.0	5	-7.2	29+	0	13	-0.6	67	90	-14	21	9	3	T	T	0.8	25	10.7	SW	23+	10	8	13	5.8	57
SOUTH DAKOTA																																
ABERDEEN	395	966.8	1016.4	-7.7	-15.6	-11.6	-3.0	1.7	17+	-28.9	9	0	31	-15.6	72	21	10	7	10	0	318	229	2.5	33	12.5	34	20+	5	9	17	7.4	
HURON	390	967.2	1015.6	-4.5	-13.9	-9.2	-2.1	6.7	15	-26.7	9	0	30	-12.8	74	13	0	8	7	0	165	127	2.3	32	15.2	NW	8	4	8	19	7.5	36
RAPID CITY	964	901.1	1016.0	-0.4	-10.9	-5.6	-2.6	13.9	14	-26.1	9	0	29	-11.1	68	9	-1	3	9	0	188	76	3.3	34	21.0	NW	16	6	10	15	6.5	49
SIOUX FALLS	432	961.7	1015.5	-4.2	-13.3	-8.7	-2.1	8.3	15	-25.6	9	0	30	-12.8	72	22	3	12	9	0	203	152	2.4	32	14.3	31	9	7	8	16	6.9	
TENNESSEE																																
BRISTOL	459	962.4	1017.8	7.6	-3.9	1.8	-1.3	18.3	17+	-15.6	7	0	22	-3.9	67	69	-20	21	12	2	10	T	1.6	25	13.4	24	5	7	7	17	6.5	
CHATTANOOGA	203	993.6	1018.6	10.2	-0.7	4.8	-0.3	21.1	5	-10.6	7	0	17	-0.6	71	60	-73	19	12	2	T	T	1.0	28	10.3	32	6+	9	5	17	6.6	42
KNOXVILLE	299	982.1	1018.0	10.2	-1.1	4.6	-0.7	20.6	5	-12.2	7	0	18	-1.1	69	84	-30	28	12	3	15	T	1.8	27	15.6	25	5	9	6	16	6.3	71
MEMPHIS	79	1007.8	1018.4	11.3	2.1	6.7	0.8	22.2	5+	-6.7	10	0	12	-1.1	61	86	-33	46	7	3	T	T	1.2	23	12.5	31	19	6	10	15	6.5	51
NASHVILLE	180	995.9	1018.2	9.4	-2.1	3.7	-1.0	20.0	5	-12.2	28+	0	16	-2.2	70	108	-5	58	12	3	T	T	1.9	23	13.0	19	8	7	8	16	7.1	45
OAK RIDGE R	276			7.9	-3.4	2.3	-1.7	18.9	5	-13.9	7	0	22			122	-14	47	12		25	25			21.0V		5	8	8	15	6.2	
TEXAS																																
ABILENE	544	952.9	1016.4	16.6	1.9	9.3	1.3	27.2	4+	-8.3	9	0	12	-3.3	48	5	-21	5	2	0	0	0	2.1	22	16.1	W	4	13	5	13	5.3	73
AMARILLO	1098	889.3	1014.5	12.7	-3.9	4.4	0.8	23.9	12	-13.9	9	0	25	-9.4	42	7	-12	5	3	0	5	T	2.2	26	16.5	28	16	9	12	10	5.4	70
AUSTIN	182	995.3	1017.6	18.4	5.6	12.0	0.7	28.9	4	-3.9	22	0	6	1.7	55	9	-48	6	4	0	0	0	0.1	33	13.0	N	9+	14	6	11	5.1	55
BROWNSVILLE	6	1016.3	1016.8	24.6	11.4	18.0	0.9	34.4	5	0.6	22	1	0	12.8	76	4	-28	2	2	0	0	0	0.4	22	13.9	S	16	6	9	16	6.5	46
CORPUS CHRISTI	12	1015.6	1017.2	23.7	9.6	16.6	1.6	32.8	5	-5.0	22	2	2	10.0	71	2	-37	1	2	0	0	0	1.3	7	13.4	18	16	11	6	14	5.8	52
DALLAS - FORT WORTH	168	995.6	1017.3	15.7	1.6	8.7	-0.2	28.3	4	-8.9	10	0	11	-2.2	53	6	-40	6	2	0	0	0	1.1	24	12.5	33	20	14	5	12	5.1	
DEL RIO	313	980.4	1016.9	20.6	5.6	13.1	1.8	32.2	4	-1.1	22	1	3	1.7	54	T	-13	T	1	0	0	0	0.8	7	10.3	33	13	12	7	12	5.1	
EL PASO	1194	883.2	1016.0	17.2	2.3	9.8	2.9	24.4	8	-8.9	21	0	13	-6.1	37	7	-6	6	2	0	0	0	1.5	25	13.4	25	16	14	8	9	4.4	77
GALVESTON	2			17.5	11.1	14.3	0.4	25.0	5	2.2	10	0	0			37	-56	31	6		0	0			15.2	NE	9					51
HOUSTON INTERCON	29	1014.6	1018.4	18.7	5.4	12.1	-0.5	27.8	4	-5.6	22	0	6	6.7	73	73	-29	55	5	1	0	0	0.3	12	11.2	31	21+	9	6	16	6.2	54
LUBBOCK	992	902.8	1015.2	15.7	-1.3	7.2	2.1	25.0	3	-10.0	21+	0	18	-7.2	41	T	-15	T	1	0	T	0	2.1	26	19.7	28	16	13	8	10	4.7	76
MIDLAND	869	916.4	1015.4	18.3	1.0	9.7	1.9	28.3	8	-8.3	21	0	12	-7.2	37	7	-6	7	1	0	T	0	2.4	23	21.0	26	16	13	9	9	4.5	
PORT ARTHUR	5	1017.6		18.4	7.4	12.9	0.6	26.1	5+	-2.2	22	0	5	7.2	73	51	-73	20	6	1	0	0	0.6	10	15.2	W	13	8	9	14	5.9	48
SAN ANGELO	580	948.9	1016.2	19.0	3.5	11.3	2.2	29.4	8	-4.4	26	0	10	-2.2	45	4	-14	4	1	0	0	0	2.1	22	15.6	27	16	14	6	11	4.7	
SAN ANTONIO	240	989.2	1017.4	19.2	4.6	11.9	0.1	29.4	5	-6.7	22	0	4	3.3	62	8	-29	6	5	0	0	0	1.2	36	13.0	2	9	10	8	13	5.8	47
VICTORIA	32	1013.5	1017.8	20.2	8.1	14.2	0.7	28.9	5+	-2.2	22	0	2	7.8	70	11	-38	7	4	0	0	0	0.6	4	19.7V	NW	21	9	7	15	6.1	
WACO	153	999.3	1017.6	17.8	4.1	10.9	1.1	29.4	4	-4.4	22	0	9	0.0	54	4	-47	4	2	0	0	0	0.5	20	13.0	1	5	15	3	13	4.8	
WICHITA FALLS	303	979.3	1016.8	14.4	-1.2	6.7	-0.1	25.6	15	-11.1	10	0	16	-5.0	52	2	-31	2	2	0	0	0	1.3	22	17.0	25	16	12	7	12	5.3	
UTAH																																
MILFORD	1533	846.6	1019.1	10.2	-6.0	2.1	4.0	18.3	7+	-16.7	20	0	28			12	-7	5	7		51	25			18.8	SW	15	7	8	16	6.5	59
SALT LAKE CITY	1286	872.0	1018.1	7.6	-1.1	3.3	4.2	15.6	14	-12.2	20	0	16	-2.8	68	36	1	14	12	2	208	51	1.5	18	14.3	NW	15	1	5	25	8.6	27
VERMONT																																
BURLINGTON	101	1002.7	1015.7	-2.1	-8.6	-5.3	-0.1	7.2	2+	-25.0	12	0	28	-8.9	76	87	31	34	14	0	574	330	0.9	20	13.4	S	23	2	5	24	8.5	32
VIRGINIA																																
LYNCHBURG	279	982.7		7.3	-2.6	2.3	-0.9	17.2	1	-14.4	28	0	19			84	2	22	12		8	T			14.3	NW	6	12	7	12	5.5	53
NORFOLK	7	1016.6	1017.6	10.8	1.9	6.4	0.7	23.3	1	-7.8	29	0	14	1.1	70	100	21	27	14	1	T	0	1.3	29	13.0	29	7	10	4	17	6.3	38
RICHMOND	50	1010.8	1017.5	9.6	-1.3	4.2	0.3	18.3	15+	-11.7	27	0	18	-0.6	74	141	60	41	14	2	T	0	0.8	29	12.1	NW	9	11	5	15	6.1	55
ROANOKE	350	974.3	1017.4	7.4	-3.1	2.2	-0.8	18.9	1	-11.1	28+	0	20	-3.3	70	63	-16	24	8	0	10	T	1.5	29	13.4	31	9+	8	9	14	6.0	
WALLOPS ISLAND	3			7.2	-0.1	3.6	-0.2	15.0	6+	-8.9	12	0	14			223	139	131	13		T	0			22.8V	ENE	18					
WASHINGTON																																
OLYMPIA	59	1005.8	1013.2	6.9	-0.3	3.3	-0.8	13.3	13+	-8.9	27	0	17	1.7	87	314	106	65	25	0	41	25	2.1	20	13.4	18	10	2	2	27	8.8	
QUILLAYUTE	55	1004.1	1011.6	8.0	0.9	4.5	-0.3	11.7	13+	-7.2	31	0	17	2.8	89	382	-14	106	21	0	114	51	0.8	15	15.2	SW	13	5	1	25	8.0	20
SEATTLE U	4			8.3	2.8	5.6	0.0	13.9	2	-2.2	31	0	8			148	12	43	19		T	0			22.8V	S	13					

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 32.2 °C or above	No of days: Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Ice pellets: Total	Snow, Ice pellets: Maximum depth on ground	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	Clear 0-3	Partly cloudy 4-7	Cloudy 8-10		
	m	mb	mb	C	C	C	C	C		C				C	%	mm	mm	mm			mm	mm	m/s		m/s							%
WASHINGTON																																
SEATTLE-TACOMA	122	996.3	1012.7	8.2	3.1	5.7	0.9	13.3	13*	-1.1	31	0	6	-0.6	66	164	13	40	18	0	T	0	1.3	16	16.1	SW	13	5	1	25	8.1	21
SPOKANE	718	929.2	1015.4	0.1	-6.6	-3.2	-1.6	10.6	2	-22.8	31	0	25	-5.0	86	115	55	23	18	0	770	279	1.6	21	18.8	W	3	5	4	22	7.9	23
STAMPEDE PASS R	1206	873.7		-2.1	-6.1	-4.1	-0.7	6.1	2	-12.8	31	0	29			648	285	201	24		2614	1524						3	1	27	8.8	
WALLA WALLA U	289			5.7	0.4	3.1	0.3	16.7	13	-11.1	31	0	17			97	47	34	16		254	203			16.5	SW	15	0	3	28	9.4	11
YAKIMA	321	977.0	1016.4	4.9	-3.2	0.8	1.2	16.7	1	-16.1	31	0	25	-3.3	75	71	42	40	14	0	168	127	1.6	27	12.5	20	15*	6	4	21	7.3	
WEST INDIES																																
SAN JUAN P.R.	4	1014.2	1015.6	29.3	23.2	26.3	1.4	31.7	7	21.1	19*	0	0	20.6	74	97	-23	43	19	0	0	0	2.8	10	11.2	E	12	8	20	3	4.9	70
WEST VIRGINIA																																
BECKLEY	763	925.5	1016.8	4.9	-4.3	0.3	0.0	17.2	1	-18.3	7	0	17	-3.3	78	54	-31	14	15	0	201	76	2.2	23	17.4	14	5	3	9	19	7.8	
CHARLESTON	286	982.1	1017.2	6.9	-3.5	1.7	-0.6	20.0	1	-15.6	7	0	17	-3.9	67	53	-29	16	18	2	137	51	2.2	23	13.4	25	5	2	12	17	7.7	
ELKINS	594	944.1		4.5	-7.9	-1.7	-1.5	17.2	1	-20.6	8	0	25			66	-17	14	19		320	76						1	7	23	8.2	
HUNTINGTON	252	986.1	1016.9	6.9	-3.4	1.7	-0.5	17.8	1	-16.1	7	0	17	-3.9	68	59	-16	25	14	2	51	51	2.0	25	10.3	30	6*	3	5	23	8.3	
PARKERSBURG U	187			5.4	-4.4	0.5	-1.2	17.8	1	-15.6	7	0	21			58	-12	28	13		61	25			17.9	W	6					44
WISCONSIN																																
GREEN BAY	209	986.5	1013.1	-3.9	-11.6	-7.8	-1.6	5.0	18*	-27.2	11	0	27	-11.1	76	59	26	14	12	0	686	356	1.8	27	12.1	NW	24*	3	6	22	7.8	39
LA CROSSE	198	989.2	1014.8	-4.4	-12.2	-8.3	-2.7	8.3	17	-26.7	27*	0	27	-11.1	78	36	9		14	0	478		1.1	26								
MADISON	262	980.7	1013.5	-2.8	-11.0	-6.9	-1.3	10.0	17	-26.1	11	0	27	-9.4	81	41	3	11	11	0	625	356	1.8	27	13.9	SW	1	4	6	21	7.7	34
MILWAUKEE	205	987.1	1013.3	-1.9	-8.3	-5.1	-0.8	7.2	17*	-20.6	9	0	26	-8.3	78	83	39	38	12	0	528	305	2.7	26	14.8	W	2	3	8	20	7.7	39
WYOMING																																
CASPER	1627	832.4	1014.8	2.4	-10.3	-3.9	-0.7	12.2	3	-30.6	9	0	28	-10.6	62	18	6	7	9	0	427	127	4.9	24	19.2	22	15	5	8	18	6.8	
CHEYENNE	1867	805.6	1012.9	4.5	-7.8	-1.7	-0.1	12.2	11	-22.2	8	0	29	-11.7	50	6	-3	4	4	0	142	76	5.8	29	25.9	W	2	6	10	15	6.5	51
LANDER	1694	824.2	1014.8	3.5	-9.9	-3.2	1.8	15.0	2	-21.1	9	0	29	-11.1	57	8	-3	5	5	0	196	102	1.1	26	21.0	SW	7	8	10	13	5.6	67
SHERIDAN	1208	874.7	1017.0	-1.6	-13.9	-7.7	-4.1	11.1	11	-32.8	9	0	31	-11.1	77	35	17	8	13	0	610	254	2.4	30	13.4	NW	7*	6	5	20	7.2	50

HEATING DEGREE DAYS

(Base 65°F.)

DECEMBER 1977

State and Station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
BIRMINGHAM	643	1108	1148
HUNTSVILLE	721	1306	1312
MOBILE	439	651	635
MONTGOMERY	479	730	911
ALASKA			
ANCHORAGE	1559	4605	4874
ANNETTE	1177	3232	2988
BARROW	2256	8042	8607
BARTER ISLAND	2238	8029	8436
BETHEL	1573	5392	5709
BETTLES	2471	6905	7167
BIG DELTA	2372	6432	6267
COLD BAY	1095	4025	4242
FAIRBANKS	2480	6678	6507
GULKANA	2415	6579	6386
HOMER	1476	4685	4637
JUNEAU	1423	4047	3957
KING SALMON	1687	5338	5116
KODIAK	1163	4111	3848
KOTZEBUE	1984	6085	6673
MC GRATH	2273	6326	6543
NOME	1756	5688	6132
ST. PAUL ISLAND	1045	4377	4709
TALKEETNA	1830	5376	5290
UNALAKLEET	1964	6072	6077
VALDEZ	1422	4454	4752
YAKUTAT	1430	4301	4157
ARIZONA			
FLAGSTAFF	843	2175	2883
PHOENIX	155	197	587
TUCSON	242	360	653
WINSLOW	716	1521	1892
YUMA	142	177	384
ARKANSAS			
FORT SMITH	773	1292	1302
LITTLE ROCK	709	1184	1314
CALIFORNIA			
BAKERSFIELD	237	411	861
BISHOP	704	1392	1693
BLUE CANYON	739	1910	1952
EUREKA U	427	1910	2006
FRESNO	417	765	1030
LONG BEACH	125	164	505
LOS ANGELES	120	202	571
LOS ANGELES U	132	197	371
MT SHASTA R	873	2406	2282
OAKLAND	334	752	1107
RED BLUFF	462	819	999
SACRAMENTO	472	866	1061
SANDBERG R	541	1196	1479
SAN DIEGO	55	92	462
SAN FRANCISCO	385	1014	1145
SAN FRANCISCO U	304	1036	1244
SANTA MARIA	238	696	1146
STOCKTON	451	778	1052
COLORADO			
ALAMOSA	1252	3140	3566
COLORADO SPRINGS	938	2232	2512
DENVER	920	2069	2300
GRAND JUNCTION	975	1943	2241
PUEBLO	894	1998	2108
CONNECTICUT			
BRIDGEPORT	970	1719	1840
HARTFORD	1141	2271	2354
DELAWARE			
WILMINGTON	975	1910	1804
DIST. OF COLUMBIA			
WASHINGTON DULLES	985	1871	1904
WASHINGTON NATIONAL	829	1432	1570
FLORIDA			
APPALACHICOLA U	371	549	498
DAYTONA BEACH	241	327	309
FORT MYERS	133	172	156
JACKSONVILLE	366	571	497
KEY WEST	36	36	18
LAKELAND U	198	256	228
MIAMI	58	64	69
ORLANDO	179	223	245
PENSACOLA	392	555	580
TALLAHASSEE	433	761	611
TAMPA	222	293	240
WEST PALM BEACH	77	95	100
GEORGIA			
ATHENS	663	1150	1188
ATLANTA	701	1196	1220
AUGUSTA	578	946	1025
COLUMBUS	530	826	941
MACON	554	877	904
ROME	734	1283	1363
SAVANNAH	457	718	771
IDAHO			
BOISE	853	2158	2321
LEWISTON	868	2250	2221
POCATELLO	990	2496	2787
ILLINOIS			
CAIRO U	848	1475	1472
CHICAGO O HARE	1254	2458	2424
CHICAGO MIDWAY	1242	2428	2251
MOLINE	1337	2592	2398
PEORIA	1301	2498	2305
ROCKFORD	1393	2838	2578
SPRINGFIELD	1172	2196	2101
INDIANA			
EVANSVILLE	970	1757	1794
FORT WAYNE	1218	2416	2337
INDIANAPOLIS	1104	2035	2126
SOUTH BEND	1206	2396	2399
IOWA			
BURLINGTON	1285	2459	2313
DES MOINES	1289	2484	2513
DUBUQUE	1472	3061	2769
SIOUX CITY	1309	2679	2649
WATERLOO	1490	3199	2832
KANSAS			
CONCORDIA	1085	2102	2132
DODGE CITY	903	1734	1934
GOODLAND	1033	2238	2372
TOPEKA	1075	2006	2006
WICHITA	926	1661	1795
KENTUCKY			
COVINGTON	1118	2129	1921
LEXINGTON	972	1753	1813
LOUISVILLE	935	1708	1787
LOUISIANA			
BATON ROUGE	387	587	643
LAKE CHARLES	367	539	551
NEW ORLEANS	342	498	546
SHREVEPORT	549	881	838
MAINE			
CARIBOU	1489	3647	3714
PORTLAND	1219	2814	2785
MARYLAND			
BALTIMORE	904	1667	1765
MASSACHUSETTS			
BLUE HILL OBS R	1109	2340	2272
BOSTON	948	1839	1971
WORCESTER	1202	2631	2518
MICHIGAN			
ALPENA	1317	3217	3192
DETROIT	1114	2184	2247
DETROIT METRO	1218	2574	2372
FLINT	1210	2546	2615
GRAND RAPIDS	1204	2614	2513
HOUGHTON LAKE	1347	3189	3172
LANSING	1226	2672	2564
MARQUETTE U	1329	3147	3087
MUSKEGON	1196	2642	2516
SAULT STE MARIE	1396	3619	3453
MINNESOTA			
DULUTH	1662	3988	3767
INTERNATIONAL FALLS	1908	4487	4157
MINNEAPOLIS	1565	3309	3093
ROCHESTER	1570	3303	3127
ST CLOUD	1674	3646	3397
MISSISSIPPI			
JACKSON	538	920	896
MERIDIAN	517	825	972
MISSOURI			
COLUMBIA REGIONAL	1053	1945	1920
KANSAS CITY	1094	2081	1933
ST JOSEPH	1100	2100	2063
ST LOUIS	1059	1962	1801
SPRINGFIELD	906	1665	1752
MONTANA			
BILLINGS	1380	3098	2796
GLASGOW	1752	4007	3450
GREAT FALLS	1502	3486	2950
HAVRE	1640	3646	3393
HELENA	1367	3382	3297
KALISPELL	1405	3750	3565
MILES CITY	1574	3408	3061
MISSOULA	1245	3328	3289
NEBRASKA			
GRAND ISLAND	1185	2381	2457
LINCOLN	1230	2478	2361
NORFOLK	1318	2673	2663
NORTH PLATTE	1236	2695	2643
OMAHA	1196	2340	2275
OMAHA (NORTH) WSFO	1268	2509	2489
SCOTTSBLUFF	1131	2433	2650
VALENTINE	1397	2967	2813
NEVADA			
ELKO	933	2327	3014
ELY	1056	2731	3072
LAS VEGAS	399	628	1045
RENO	821	2076	2439
WINNEMUCCA	798	2204	2669
NEW HAMPSHIRE			
CONCORD	1360	2988	2786
MT WASHINGTON OBS	1796	5977	5884
NEW JERSEY			
ATLANTIC CITY	910	1708	1794
ATLANTIC CITY U	862	1617	1566
NEWARK	975	1871	1787
TRENTON U	944	1822	1785
NEW MEXICO			
ALBUQUERQUE	757	1501	1733
CLAYTON	806	1731	2005
ROSWELL	551	968	1552
NEW YORK			
ALBANY	1179	2530	2562
BINGHAMTON	1246	2784	2721
BUFFALO	1146	2420	2508
NEW YORK U	903	1790	1681
NEW YORK KENNEDY	947	1896	1777
NEW YORK LA GUARDIA	901	1793	1696
ROCHESTER	1127	2404	2432
SYRACUSE	1162	2425	2405
NORTH CAROLINA			
ASHEVILLE	868	1679	1695
CAPE HATTERAS R	504	803	889
CHARLOTTE	690	1264	1280
GREENSBORO	821	1594	1521
RALEIGH	768	1466	1386
WILMINGTON	537	912	911
NORTH DAKOTA			
BISMARCK	1687	3788	3483
FARGO	1817	3857	3542
WILLISTON	1759	3954	3574
OHIO			
AKRON	1130	2313	2328
CINCINNATI ABBE OB	1075	1957	1843
CLEVELAND	1103	2163	2253
COLUMBUS	1091	2133	2188
DAYTON U	1108	2168	2130
MANSFIELD	1159	2340	2171
TOLEDO	1241	2538	2410
YOUNGSTOWN	1142	2325	2396
OKLAHOMA			
OKLAHOMA CITY	766	1301	1409
TULSA	801	1332	1402
OREGON			
ASTORIA	646	2158	2136
BURNS U	1020	2833	2899
EUGENE	675	1963	1888
MEDFORD	694	1850	1972
PENDLETON	927	2435	2116
PORTLAND	707	1880	1914
SALEM	670	1929	1923
SEXTON SUMMIT R	854	2665	2426
PENNSYLVANIA			
ALLENTOWN	1077	2122	2179
ERIE	1131	2414	2483
HARRISBURG	1029	2008	1984
PHILADELPHIA	998	1908	1775
PITTSBURGH	1043	2198	2274
PITTSBURGH U	1002	1959	1972
SCRANTON	1090	2418	2371
WILLIAMSPORT	1126	2223	2263
RHODE ISLAND			
BLOCK ISLAND	899	1795	1894
PROVIDENCE	1030	2075	2143
SOUTH CAROLINA			
CHARLESTON	459	746	832
CHARLESTON U	447	688	696
COLUMBIA	629	1099	1042
GRNVLLE-SPRTNBRG	681	1189	1259
SOUTH DAKOTA			
ABERDEEN	1669	3579	3307
HURON	1530	3194	3071
RAPID CITY	1330	2980	2777
SIOUX FALLS	1503	3180	3010
TENNESSEE			
BRISTOL	913	1746	1711
CHATTANOOGA	753	1350	1412
KNOXVILLE	764	1383	1388
MEMPHIS	640	1076	1263
NASHVILLE	813	1496	1451
OAK RIDGE	890	1700	1573
TEXAS			
ABILENE	500	870	1002
AMARILLO	768	1441	1609
AUSTIN	354	506	643
BROWNSVILLE	101	126	185
CORPUS CHRISTI	160	220	307
DALLAS FT WORTH	536	848	877
DEL RIO	294	426	612
EL PASO	472	856	1133
GALVESTON	238	307	379
HOUSTON INTERCON	365	549	512
LUBBOCK	611	1064	1391
MIDLAND	478	820	1029
PORT ARTHUR	321	449	561
SAN ANGELO	390	683	889
SAN ANTONIO	360	517	584
VICTORIA	261	355	423
WACO	417	612	763
WICHITA FALLS	645	1054	1106
UTAH			
MILFORD	898	2205	2529
SALT LAKE CITY	835	1871	2365
VERMONT			
BURLINGTON	1314	2902	2916
VIRGINIA			
LYNCHBURG	887	1688	1650
NORFOLK	661	1140	1256
RICHMOND	784	1448	1510
ROANOKE	896	1760	1672
WALLOPS ISLAND	818	1520	1470
WASHINGTON			
OLYMPIA	829	2563	2278
QUILLAYUTE	767	2597	2461
SEATTLE	704	2004	1896
SEATTLE-TACOMA	701	1971	2101
SPOKANE	1197	3083	2798
STAMPEDE PASS R	1243	4204	3936
WALLA WALLA U	846	2037	1956
YAKIMA	968	2594	2509
WEST VIRGINIA			
BECKLEY	997	2126	2226
CHARLESTON	919	1779	1794
ELKINS	1111	2320	2379
HUNTINGTON	919	1741	1795
PARKERSBURG U	989	1870	1841
WISCONSIN			
GREEN BAY	1454	3169	3051
LA CROSSE	1483	3070	2805
MADISON	1404	3124	2945
MILWAUKEE	1302	2775	2751
WYOMING			
CASPER	1240	2895	2931
CHEYENNE	1108	2774	2803
LANDER	1193	2934	3119
SHERIDAN	1452	3299	3010

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

1977

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.- Dec.
ALABAMA														
BIRMINGHAM	0	5	21	85	241	450	578	537	329	25	0	1	2272	1928
HUNTSVILLE	0	1	8	70	222	372	557	477	271	13	4	0	1995	1808
MOBILE	0	4	74	132	333	543	579	576	482	85	31	7	2846	2577
MONTGOMERY	0	0	27	113	308	533	585	523	442	63	29	7	2630	2238
ALASKA														
ANCHORAGE	0	0	0	0	0	0	8	3	0	0	0	0	11	0
ANNETTE	0	0	0	0	0	0	0	60	0	0	0	0	60	14
BARROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BARTER ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BETHEL	0	0	0	0	0	0	0	8	0	0	0	0	8	0
BETTLES	0	0	0	0	0	0	54	36	0	0	0	0	90	17
BIG DELTA	0	0	0	0	0	0	26	39	0	0	0	0	65	34
COLD BAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FAIRBANKS	0	0	0	0	0	0	44	54	0	0	0	0	98	52
GULKANA	0	0	0	0	0	0	4	1	0	0	0	0	5	9
HOMER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JUNEAU	0	0	0	0	0	0	0	1	0	0	0	0	1	0
KING SALMON	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KODIAK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KOTZEBUE	0	0	0	0	0	0	18	1	0	0	0	0	19	0
MC GRATH	0	0	0	0	0	0	17	19	0	0	0	0	36	14
NOME	0	0	0	0	0	0	11	10	0	0	0	0	21	0
ST. PAUL ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TALKEETNA	0	0	0	0	0	0	6	2	0	0	0	0	8	6
UNALAKLEET	0	0	0	0	0	0	9	13	0	0	0	0	22	0
VALDEZ	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YAKUTAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARIZONA														
FLAGSTAFF	0	0	0	0	0	28	82	61	20	0	0	0	191	140
PHOENIX	0	36	25	295	334	797	936	907	683	434	73	1	4521	3508
TUCSON	0	0	5	133	198	597	691	669	517	266	23	0	3099	2814
WINSLOW	0	0	0	2	18	269	423	377	178	21	0	0	1288	1203
YUMA	0	36	14	238	239	731	921	849	644	429	83	0	4184	4195
ARKANSAS														
FORT SMITH	0	0	0	60	250	460	554	528	367	40	3	0	2262	2022
LITTLE ROCK	0	0	7	67	287	455	537	482	377	40	14	0	2266	1925
CALIFORNIA														
BAKERSFIELD	0	10	2	115	113	577	651	635	423	211	4	1	2742	2179
BISHOP	0	0	0	5	18	281	373	378	120	1	0	0	1176	1037
BLUE CANYON	0	0	0	0	1	128	123	168	53	2	0	0	475	302
EUREKA U	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FRESNO	0	0	0	62	60	451	518	494	275	108	0	0	1968	1671
LONG BEACH	6	4	0	14	26	124	295	360	207	180	83	13	1312	985
LOS ANGELES	3	13	0	1	0	23	121	193	118	63	62	5	602	615
LOS ANGELES U	7	39	3	23	18	135	293	334	210	148	96	8	1314	1185
MT SHASTA R	0	0	0	0	0	106	104	144	19	0	0	0	373	286
OAKLAND	0	0	0	2	0	14	33	59	44	11	0	0	163	128
RED BLUFF	0	3	0	51	46	503	564	548	267	86	0	0	2068	1904
SACRAMENTO	0	0	0	12	19	230	290	284	139	40	0	0	1014	1159
SANDBERG R	0	0	0	1	10	150	260	263	108	64	0	0	856	800
SAN DIEGO	5	9	0	2	1	34	212	258	224	128	40	8	921	722
SAN FRANCISCO	0	0	0	0	0	10	30	26	17	5	0	0	88	108
SAN FRANCISCO U	0	0	0	0	0	1	18	17	8	8	0	0	52	39
SANTA MARIA	0	0	0	0	0	0	24	40	17	7	15	1	104	84
STOCKTON	0	0	0	55	46	356	446	436	243	95	0	0	1677	1259
COLORADO														
ALAMOSA	0	0	0	0	0	2	36	25	2	0	0	0	65	88
COLORADO SPRINGS	0	0	0	0	0	103	204	142	49	0	0	0	498	461
DENVER	0	0	0	2	11	214	297	182	93	0	0	0	799	625
GRAND JUNCTION	0	0	0	16	60	429	477	420	180	10	0	0	1592	1140
PUEBLO	0	0	0	1	57	283	396	293	115	0	0	0	1145	981
CONNECTICUT														
BRIDGEPORT	0	0	0	0	24	70	249	290	143	5	0	0	781	735
HARTFORD	0	0	4	13	93	144	303	259	88	1	[illegible]	0	905	584
DELAWARE														
WILMINGTON	0	[illegible]	5	20	80	156	360	328	166	0	5	0	1120	992
DIST. OF COLUMBIA														
WASHINGTON DULLES	0	0	13	22	81	147	361	357	175	[illegible]	12	0	1171	940
WASHINGTON NATIONAL	0	0	10	49	177	289	496	434	274	18	15	0	1762	1415
FLORIDA														
APPALACHICOLA U	0	0	63	104	258	488	512	495	465	108	49	8	2550	2663
DAYTONA BEACH	4	12	181	177	310	527	553	554	478	212	131	41	3180	2919
FORT MYERS	7	25	205	200	346	479	520	521	509	293	196	88	3389	3711
JACKSONVILLE	0	1	107	115	255	499	559	531	462	110	68	10	2717	2596
KEY WEST	101	112	360	371	446	551	589	567	556	419	295	177	4544	4888
LAKELAND U	[illegible]	14	222	220	362	558	551	527	525	246	150	44	3421	3298
MIAMI	50	97	318	299	381	508	587	574	549	364	284	191	4202	4038
ORLANDO	1	13	192	182	324	534	537	521	536	257	185	62	3344	3226
PENSACOLA	0	2	75	118	300	519	531	484	462	119	50	10	2670	2695
TALLAHASSEE	0	0	87	123	249	455	536	494	428	73	46	7	2498	2563
TAMPA	2	9	218	210	364	567	559	565	526	258	139	36	3453	3366
WEST PALM BEACH	25	62	287	308	376	493	531	548	484	329	253	155	3851	3786
GEORGIA														
ATHENS	0	0	6	74	215	415	524	417	292	24	[illegible]	1	1973	1722
ATLANTA	0	0	3	51	171	367	456	403	266	17	1	0	1735	1589
AUGUSTA	0	0	33	77	250	461	555	465	355	34	27	0	2257	1995
COLUMBUS	0	0	38	135	302	502	600	532	400	45	20	6	2580	2143
MACON	0	0	34	127	296	520	573	512	397	40	18	4	2521	2294
ROME	0	0	12	75	190	398	529	481	305	19	3	0	2012	1615
SAVANNAH	0	1	71	130	289	517	574	508	421	74	58	0	2643	2317

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

1977

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.- Dec.
HAWAII														
HILO	280	260	264	281	307	343	379	415	382	374	312	274	3871	3066
HONOLULU	276	305	355	344	396	441	498	541	505	507	417	320	4905	4221
KAHULUI	216	244	303	290	343	352	409	476	446	440	368	283	4170	3732
LIHUE	255	224	288	273	326	357	430	469	456	450	376	269	4173	3719
IDAHO														
BOISE	0	0	0	20	10	170	255	306	61	0	0	0	822	714
LEWISTON	0	0	0	34	10	234	275	410	49	0	0	0	1012	687
POCATELLO	0	0	0	0	1	129	190	164	35	0	0	0	519	437
ILLINOIS														
CAIRO	0	0	8	105	326	438	575	441	290	14	5	0	2202	1806
CHICAGO O HARE	0	0	0	39	191	178	395	229	76	0	0	0	1108	664
CHICAGO MIDWAY	0	0	0	39	244	201	424	225	83	0	2	0	1218	925
MOLINE	0	0	0	44	182	173	397	199	73	0	0	0	1068	893
PEORIA	0	0	0	42	176	179	416	209	88	0	0	0	1110	968
ROCKFORD	0	0	0	31	180	120	330	138	48	0	0	0	847	714
SPRINGFIELD	0	0	0	76	238	217	452	251	134	0	1	0	1369	1116
INDIANA														
EVANSVILLE	0	0	9	61	255	323	501	376	232	6	16	0	1779	1364
FORT WAYNE	0	0	0	41	177	152	353	197	108	0	0	0	1028	748
INDIANAPOLIS	0	0	3	45	226	212	410	286	175	0	6	0	1363	974
SOUTH BEND	0	0	0	47	206	137	355	173	74	0	2	0	994	695
IOWA														
BURLINGTON	0	0	0	49	167	184	452	188	89	0	0	0	1129	994
DES MOINES	0	0	0	48	172	298	505	232	86	1	0	0	1342	928
DUBUQUE	0	0	0	26	103	126	302	98	30	0	0	0	685	606
SIOUX CITY	0	0	0	21	102	186	346	152	55	0	0	0	862	932
WATERLOO	0	0	0	9	107	145	297	92	23	0	0	0	673	675
KANSAS														
CONCORDIA	0	0	0	14	113	304	518	280	143	4	0	0	1376	1302
DODGE CITY	0	0	2	23	132	441	604	396	231	25	0	0	1854	1411
GOODLAND	0	0	0	7	9	206	360	199	106	0	0	0	887	925
TOPEKA	0	0	0	40	176	311	453	360	209	14	0	0	1563	1361
WICHITA	0	0	3	19	152	404	581	404	254	24	0	0	1841	1673
KENTUCKY														
COVINGTON	0	0	7	22	171	152	407	285	181	4	5	0	1234	1080
LEXINGTON	0	0	11	52	206	241	422	337	232	8	23	0	1532	1197
LOUISVILLE	0	0	14	50	234	281	479	396	238	5	20	0	1717	1268
LOUISIANA														
ALEXANDRIA	0	5	58	113	367	534	605	532	455					0
BATON ROUGE	0	4	77	111	337	535	573	513	447	121	42	12	2772	2585
LAKE CHARLES	0	4	49	118	343	499	539	514	456	167	48	13	2750	2739
NEW ORLEANS	0	10	123	145	345	528	593	532	463	151	56	16	2962	2706
SHREVEPORT	0	7	28	69	289	443	580	479	419	119	12	9	2454	2538
MAINE														
CARIBOU	0	0	0	0	52	24	69	77	1	0	0	0	223	128
PORTLAND	0	0	0	1	32	12	135	109	19	0	0	0	308	252
MARYLAND														
BALTIMORE	0	0	10	37	124	217	439	401	229	7	10	0	1474	1108
MASSACHUSETTS														
BLUE HILL OBS R	0	0	4	4	48	60	218	204	45	0	0	0	583	457
BOSTON	0	0	1	13	92	124	314	272	75	6	0	0	897	661
WORCESTER	0	0	2	4	37	44	155	150	32	0	0	0	424	387
MICHIGAN														
ALPENA	0	0	0	0	36	39	125	48	9	0	0	0	257	208
DETROIT	0	0	1	32	137	157	382	238	106	0	0	0	1053	743
DETROIT METRO	0	0	0	25	108	107	341	198	94	0	0	0	873	654
FLINT	0	0	0	12	86	70	286	140	62	0	0	0	656	438
GRAND RAPIDS	0	0	0	19	137	85	286	143	44	0	0	0	714	575
HOUGHTON LAKE	0	0	0	0	61	46	192	50	5	0	0	0	354	250
LANSING	0	0	0	19	124	76	282	162	56	0	0	0	719	535
MARQUETTE U	0	0	0	0	44	24	126	35	0	0	0	0	229	216
MUSKEGON	0	0	0	4	95	42	237	114	28	0	0	0	520	469
SAULT STE MARIE	0	0	0	0	19	5	49	13	0	0	0	0	86	139
MINNESOTA														
DULUTH	0	0	0	0	12	24	80	6	0	0	0	0	122	176
INTERNATIONAL FALLS	0	0	0	0	65	26	92	4	0	0	0	0	187	176
MINNEAPOLIS	0	0	0	12	145	129	310	76	19	0	0	0	691	585
ROCHESTER	0	0	0	18	83	98	255	68	26	0	0	0	548	474
ST CLOUD	0	0	0	5	101	78	199	44	6	0	0	0	428	426
MISSISSIPPI														
JACKSON	0	3	39	89	331	508	555	534	409	47	16	4	2535	2321
MERIDIAN	0	0	23	50	250	517	584	534	433	59	24	4	2498	2231
MISSOURI														
COLUMBIA REGIONAL	0	0	0	14	140	261	450	377	177	4	0	0	1423	1269
KANSAS CITY	0	0	0	39	154	291	463	298	147	11	0	0	1403	1420
ST JOSEPH	0	0	0	36	139	315	493	292	136	7	0	0	1418	1334
ST LOUIS	0	0	2	69	231	302	509	360	190	4	0	0	1667	1475
SPRINGFIELD	0	0	0	18	161	332	479	449	238	15	0	0	1692	1382
MONTANA														
BILLINGS	0	0	0	0	7	160	242	102	34	0	0	0	545	498
GLASGOW	0	0	0	1	34	85	166	29	6	0	0	0	321	438
GREAT FALLS	0	0	0	0	0	86	139	48	20	0	0	0	293	339
HAVRE	0	0	0	0	4	103	188	62	14	0	0	0	371	395
HELENA	0	0	0	0	0	57	101	54	13	0	0	0	225	256
KALISPELL	0	0	0	2	0	17	48	62	0	0	0	0	129	117
MILES CITY	0	0	0	8	66	192	296	90	33	0	0	0	685	752
MISSOULA	0	0	0	0	1	36	92	163	3	0	0	0	295	188

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NEBRASKA														
GRAND ISLAND	[illegible]	0	0	24	85	268	437	214	77	0	0	0	1105	[illegible]
LINCOLN	0	0	0	14	124	289	501	231	91	0	0	0	1250	[illegible]
NORFOLK	0	0	0	30	101	241	415	174	73	0	0	0	1034	925
NORTH PLATTE	0	0	0	[illegible]	26	174	305	149	64	0	0	0	720	[illegible]
OMAHA	0	0	0	45	179	246	434	189	105	0	0	0	1198	1173
OMAHA (NORTH) WSFO									76	0	0	0		949
SCOTTSBLUFF	[illegible]	[illegible]	0	6	45	254	356	194	90	0	0	0	945	666
VALENTINE	0	0	0	3	46	203	307	116	57	0	0	0	732	736
NEVADA														
ELKO	[illegible]	0	0	0	3	152	217	216	48	0	0	0	636	342
ELY	0	0	0	0	0	24	86	74	14	0	0	0	198	[illegible]
LAS VEGAS	0	0	0	161	149	694	858	781	476	210	3	0	3332	2946
RENO	0	0	0	0	6	141	154	167	32	0	0	0	500	329
WINNEMUCCA	0	0	0	0	4	188	257	265	27	0	0	0	741	[illegible]
NEW HAMPSHIRE														
CONCORD	0	0	0	5	57	64	168	156	38	0	0	0	488	349
MT WASHINGTON OBS	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0
NEW JERSEY														
ATLANTIC CITY	0	0	2	15	51	120	328	325	168	7	2	0	1018	864
ATLANTIC CITY U	0	0	[illegible]	6	37	105	324	355	200	10	0	0	1037	835
NEWARK	0	0	6	18	111	191	414	321	146	1	[illegible]	0	1208	1024
TRENTON U	0	0	10	18	102	187	380	312	149	2	3	0	1163	968
NEW MEXICO														
ALBUQUERQUE	0	0	0	0	44	324	427	392	141	7	0	0	1335	1316
CLAYTON	0	0	0	0	16	241	342	256	130	3	0	0	988	767
ROSWELL	0	0	0	34	269	505	602	564	408	46	0	0	2428	1560
NEW YORK														
ALBANY	0	0	0	8	66	79	222	146	53	0	0	0	574	574
BINGHAMTON	0	0	3	14	56	39	174	115	33	0	0	0	434	369
BUFFALO	0	0	0	12	68	78	228	142	45	0	[illegible]	0	574	437
NEW YORK U	0	0	3	22	110	189	442	338	159	0	0	0	1263	1068
NEW YORK KENNEDY	0	0	0	5	51	114	321	268	127	0	0	0	886	861
NEW YORK LA GUARDIA	0	0	0	10	93	166	387	311	130	0	0	0	1097	1048
ROCHESTER	0	0	3	16	80	[illegible]	260	164	50	0	1	0	662	531
SYRACUSE	0	0	1	12	71	47	202	138	49	0	0	0	520	551
NORTH CAROLINA														
ASHEVILLE	0	0	0	2	59	173	340	279	146	7	1	0	1007	872
CAPE HATTERAS R	0	1	10	49	177	295	499	453	374	57	37	6	1958	1550
CHARLOTTE	0	2	0	50	191	319	545	465	294	27	20	0	1913	1596
GREENSBORO	0	[illegible]	1	50	175	275	483	417	214	[illegible]	10	0	1636	1341
RALEIGH	0	[illegible]	4	68	162	272	490	414	245	25	19	0	1701	1394
WILMINGTON	0	4	28	114	234	387	553	487	391	56	53	3	2310	1964
NORTH DAKOTA														
BISMARCK	0	0	0	3	70	72	186	25	11	0	0	0	367	487
FARGO	0	0	0	6	129	86	235	23	8	0	0	0	487	473
WILLISTON	0	0	0	0	74	96	204	30	6	0	0	0	410	422
OHIO														
AKRON	0	0	5	30	131	118	314	223	71	[illegible]	0	0	892	634
CINCINNATI ABBE OB	0	0	10	48	205	190	447	308	202	4	8	0	1422	1188
CLEVELAND	0	0	4	22	74	73	262	175	84	0	[illegible]	0	703	613
COLUMBUS	0	0	8	24	151	148	354	242	139	0	7	0	1073	[illegible]
DAYTON U	0	0	4	36	188	167	393	255	153	0	[illegible]	0	1199	936
MANSFIELD	0	[illegible]	0	18	84	72	299	190	96	0	1	0	760	818
TOLEDO	0	0	0	37	95	99	309	167	77	0	0	0	784	685
YOUNGSTOWN	0	0	4	28	80	86	246	171	89	0	4	0	708	518
OKLAHOMA														
OKLAHOMA CITY	0	1	8	37	170	445	565	491	395	49	2	0	2163	1876
TULSA	0	1	6	84	248	486	619	525	327	38	0	0	2334	1949
OREGON														
ASTORIA	0	0	0	0	0	0	0	18	0	0	[illegible]	0	18	13
BURNS U	0	0	0	0	[illegible]	87	120	214	27	0	0	0	451	289
EUGENE	0	0	0	0	0	10	52	177	12	0	0	0	251	239
MEDFORD	0	0	0	[illegible]	2	165	239	352	77	0	0	0	837	562
PENDLETON	0	0	0	16	3	152	190	348	16	0	0	0	725	656
PORTLAND	0	0	0	0	0	42	90	233	10	0	0	0	375	300
SALEM	0	0	0	0	0	19	50	187	5	0	0	0	261	232
SEXTON SUMMIT R	0	0	0	0	0	18	50	212	11	0	0	0	291	137
PACIFIC AREA														
GUAM TAGUAC R	363	341	401	405	438	459	474	474	428	442	435	424	5084	5011
JOHNSTON	384	366	373	355	440	436	485	520	496	528	443	415	5241	5086
KOROR R	516	460	527	530	563	532	507	509	524	551	550	551	6320	6008
KWAJALEIN	507	491	537	514	526	518	526	564	555	547	537	549	6371	6164
MAJURO	478	464	518	475	476	495	501	510	528	506	492	507	5950	[illegible]
PAGO PAGO	531	491	516	487	454	474	445	445	411	472	480	537	5743	5325
PONAPE R	504	498	530	518	511	504	507	522	499	505	490	525	6113	5652
TRUK MOEN ISLAND	515	471	516	517	534	531	529	529	508	538	491	540	6219	5888
WAKE	359	341	366	384	484	524	560	534	541	502	457	399	5451	5455
YAP R	474	440	516	528	508	490	478	493	466	512	493	496	5894	5916
PENNSYLVANIA														
ALLENTOWN	0	0	4	13	99	155	331	263	115	[illegible]	5	0	986	772
ERIE	0	0	2	9	52	42	179	121	44	0	1	0	450	373
HARRISBURG	0	0	4	19	95	147	347	297	140	1	3	0	1053	1025
PHILADELPHIA	0	0	10	32	104	150	402	355	175	3	6	0	1237	1104
PITTSBURGH	0	0	3	14	83	75	231	141	72	0	[illegible]	0	623	647
SCRANTON	[illegible]	0	[illegible]	13	57	62	208	162	59	0	2	0	565	[illegible]
WILLIAMSPORT	0	0	0	18	91	106	282	241	119	0	5	0	862	698
RHODE ISLAND														
BLOCK ISLAND	0	[illegible]	0	0	3	33	197	193	65	0	0	0	491	359
PROVIDENCE	0	[illegible]	0	5	68	108	295	260	85	0	0	0	821	532

MONTHLY AND SEASONAL COOLING DEGREE DAYS

(Base 65°F)

1977

State and Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for Season	Normals Jan.- Dec.
SOUTH CAROLINA														
CHARLESTON	0	1	54	107	263	493	588	518	417	71	71	1	2584	2078
CHARLESTON J	0	1	52	152	314	516	624	541	470	79	46	0	2795	2354
COLUMBIA	0	3	53	110	257	407	549	429	318	29	25	0	2180	2087
GRNVLLE-SPRTNBRG	0	0	1	46	226	383	528	431	289	34	20	0	1958	1573
SOUTH DAKOTA														
ABERDEEN	0	0	0	9	85	109	291	67	19	0	0	0	580	566
HURON	0	0	0	14	79	176	369	113	44	0	0	0	795	711
RAPID CITY	0	0	0	0	25	143	270	85	51	0	0	0	574	661
SIOUX FALLS	0	0	0	11	101	197	382	123	40	0	0	0	854	719
TENNESSEE														
BRISTOL	0	0	1	23	124	213	374	309	163	2	8	0	1217	1107
CHATTANOOGA	0	0	9	60	194	384	578	532	320	15	3	0	2095	1636
KNOXVILLE	0	5	14	57	188	317	483	440	283	14	10	0	1811	1569
MEMPHIS	0	0	23	123	362	516	619	551	426	41	20	0	2681	2029
NASHVILLE	0	0	11	74	253	371	543	458	281	13	4	0	2008	1694
OAK RIDGE	0	0	3	4	109	241	387	324	177	7	4	0	1256	1367
TEXAS														
ABILENE	0	4	13	17	267	496	590	579	534	122	7	1	2630	2466
AMARILLO	0	0	0	10	100	399	493	389	287	22	0	0	1700	1433
AUSTIN	0	7	38	90	324	526	629	681	572	227	40	7	3141	2908
BROWNSVILLE	15	44	174	272	476	535	615	658	585	384	177	88	4023	3874
CORPUS CHRISTI	4	18	104	206	435	545	616	677	621	342	136	71	3775	3474
DALLAS FT WORTH	0	0	7	94	391	581	693	626	505	112	6	2	3017	2587
DEL RIO	0	7	63	121	334	543	649	733	630	239	34	6	3359	3363
EL PASO	0	0	0	39	186	500	540	552	380	43	0	0	2240	2098
GALVESTON	0	4	21	160	350	488	553	555	499	254	75	21	2980	3004
HOUSTON INTERCON	0	5	44	91	302	487	547	565	456	173	58	23	2751	2889
LUBBOCK	0	0	0	19	221	435	482	455	379	36	0	0	2027	1647
MIDLAND	0	0	9	21	359	522	584	638	518	112	1	0	2764	2250
PORT ARTHUR	0	4	62	125	391	562	627	621	551	235	82	28	3288	2798
SAN ANGELO	0	6	14	53	333	523	621	662	562	183	17	1	2975	2702
SAN ANTONIO	0	3	52	98	311	502	620	618	525	218	38	5	2990	2994
VICTORIA	4	8	74	144	376	517	599	625	551	259	89	37	3283	3140
WACO	0	7	20	94	366	593	754	719	628	224	34	13	3452	2863
WICHITA FALLS	0	2	2	34	254	537	652	570	502	88	3	0	2644	2611
UTAH														
MILFORD	0	0	0	0	2	131	273	249	67	0	0	0	722	688
SALT LAKE CITY	0	0	0	12	2	254	389	328	123	0	0	0	1108	927
VERMONT														
BURLINGTON	0	0	0	7	75	86	174	138	27	0	0	0	507	396
VIRGINIA														
LYNCHBURG	0	0	5	38	129	184	424	349	167	9	8	0	1313	1100
NORFOLK	0	4	16	66	145	289	515	502	347	24	22	0	1930	1441
RICHMOND	0	0	22	66	148	258	513	467	289	24	27	0	1814	1353
ROANOKE	0	0	7	28	158	214	461	400	185	4	7	0	1464	1030
WALLOPS ISLAND	0	0	0	26	63	175	416	392	228	16	0	0	1316	1107
WASHINGTON														
OLYMPIA	0	0	0	0	0	14	7	87	1	0	0	0	109	101
QUILLAYUTE	0	0	0	0	0	1	1	15	0	0	0	0	17	8
SEATTLE	0	0	0	0	0	6	24	144	1	0	0	0	175	183
SEATTLE-TACOMA	0	0	0	0	0	26	44	158	4	0	0	0	232	129
SPOKANE	0	0	0	18	2	72	126	254	0	0	0	0	472	388
STAMPEDE PASS R	0	0	0	2	0	5	6	88	0	0	0	0	101	16
WALLA WALLA J	0	0	0	26	4	222	258	415	52	0	0	0	977	862
YAKIMA	0	0	0	5	0	153	158	319	4	0	0	0	639	479
WEST INDIES														
SAN JUAN P.R.	382	360	419	463	499	514	491	502	487	532	469	452	5570	4982
WEST VIRGINIA														
BECKLEY	0	0	1	11	58	60	229	169	77	0	2	0	607	490
CHARLESTON	0	0	18	50	148	165	373	277	180	4	12	0	1227	1055
ELKINS	0	0	1	6	26	55	160	142	91	0	4	0	485	389
HUNTINGTON	0	0	25	66	173	173	427	330	156	4	19	0	1373	1098
PARKERSBURG U	0	0	12	36	163	156	371	286	178	5	8	0	1215	1045
WISCONSIN														
GREEN BAY	0	0	0	5	87	81	269	87	5	0	0	0	534	386
LA CROSSE	0	0	0	41	145	132	325	100	33	0	0	0	776	695
MADISON	0	0	0	24	123	99	278	88	10	0	0	0	622	460
MILWAUKEE	0	0	0	12	65	81	264	122	20	0	0	0	564	450
WYOMING														
CASPER	0	0	0	0	0	150	218	92	31	0	0	0	491	458
CHEYENNE	0	0	0	0	0	59	126	38	29	0	0	0	252	327
LANDER	0	0	0	0	0	124	185	67	34	0	0	0	410	383
SHERIDAN	0	0	0	0	3	73	176	48	16	0	0	0	316	446

STORM SUMMARY

DECEMBER 1977

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				‡ ICE STORMS				ϕ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama								4				4																	
Alaska												5																	
Arizona *																													
Arkansas	1	1			4			[illegible]		2	2	4																	
California										7	[illegible]	7	7													1	3	[illegible]	[illegible]
Colorado											3	6																	
Connecticut																								4					
Delaware												3																3	
Florida	3	3	1	10	6																								
Georgia												4																	
Hawaii *																													
Idaho											1	5																	
Illinois *																													
Indiana *																													
Iowa																				3									
Kansas *																													
Kentucky	1	1			4							5	3																
Louisiana	1	1		1	3						3	4																	
Maine *																													
Maryland & DC											1	6																4	
Massachusetts																				4				1					
Michigan											5	5						1		3									
Minnesota *																													
Mississippi	4	2		9	6			[illegible]	[illegible]			5	[illegible]															[illegible]	[illegible]
Missouri												3																	
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire *																													
New Jersey *																													
New Mexico												5	3																
New York												3							[illegible]	5			[illegible]	5					
North Carolina																												5	
North Dakota										[illegible]								1						7		1			
Ohio										1		4						4	13	5								[illegible]	
Oklahoma *																													
Oregon											[illegible]	5						2	4	[illegible]	[illegible]		3	[illegible]	[illegible]	3		6	
Pacific																										[illegible]	[illegible]	[illegible]	C
Pennsylvania											[illegible]	[illegible]							[illegible]	[illegible]			[illegible]	6				5	
Puerto Rico *																													
Rhode Island																							1	4					
South Carolina	5	1		8	6			3				3																	
South Dakota *																													
Tennessee	3	2		5	5			6			11	5																	
Texas	4	2	1	41	7			[illegible]	[illegible]																				
Utah *																													
Vermont																			[illegible]	4			[illegible]	4					
Virginia	1	1			4							3																	
Virgin Islands *																													
Washington												5														1	3	6	
West Virginia												4																	
Wisconsin																		1											
Wyoming *																													

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1977

Herbert J. Thompson, Office of Hydrology

The most serious flooding during the month occurred in western Washington with record stages on some streams and losses estimated at nearly $40 million with four flood related deaths. Severe flooding also occurred in the Wabash Basin in Indiana where losses were estimated at nearly $5 million. Significant flooding occurred in Louisiana and in the Great Lakes Drainage in Ohio. Moderate flooding was reported in western Oregon, New Jersey, and Mississippi. Minor flooding was reported from several areas and was caused by ice jams in northern portions of the country.

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
GREAT LAKES - ST. LAWRENCE DRAINAGE		
A record stage occurred on the Raisin River on the 27th at Monroe City, MI, due to an ice jam below the gage. Although the crest was more than 3 feet over flood stage, flooding from backwater was quite localized and no serious damage was reported.	0	N.A.
Heavy snow cover developed over the Lake Erie drainage in Indiana and Ohio the week of the 4th-11th with water contents of 1 to over 2 inches. This was followed by rapid warming and rainfall of 0.5 to 2 inches, which caused extensive flooding. The Cuyahoga River crested 4 feet over flood stage at Independence, OH, where the peak discharge was reported by the U.S. Geological Survey to have less than a 50-year recurrence interval. Moderate flooding of low-lying areas around Cleveland caused evacuations of workers and residents. Flooding also occurred along the Chagrin River at Willoughby with a crest 1 foot over flood stage. In the Maumee Basin the St. Marys River crested 7 feet over flood stage at Decatur, IN, and the Maumee 3 feet over flood stage at Fort Wayne. Several homes were flooded at both locations.	0	N.A.
Minor flooding from snowmelt and up to 4 inches of rain occurred along several streams in western New York. Streams affected included Tonawanda, Buffalo, Oatka, and Black Creeks. Flooding from ice jams closed a few roads in Lancaster along Ellicott Creek.	0	N.A.
ATLANTIC SLOPE DRAINAGE		
Some urban and basement flooding was reported in southern New England during the month. The Housatonic River exceeded flood stage slightly at Gaylordsville, CT, on the 16th. The Mohawk River reached flood stage at Schenectady, NY, also on the 16th. Flooding was caused by heavy rain and snowmelt, although much of the rain was absorbed by the heavy snow pack.	0	N.A.
One or more brief periods of minor to moderate flooding occurred on streams in the New Jersey Coastal drainage and tributaries of the Delaware and upper Susquehanna Rivers in New York, Pennsylvania, and New Jersey due to frequent rainfall combined with snow melt at higher elevations. The Millstone River crested nearly 3 feet over flood stage on the 22d. Other crests on the Millstone and on the Chemung, Raritan, and Assunpink Rivers, and Neshaminy and Brandywine Creeks ranged from less than 1 foot to nearly 2 feet over flood stage.	0	N.A.
In the Southeast frequent rains during December kept stream levels high with minor flooding on the Lumber River in North Carolina, the	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
ATLANTIC SLOPE DRAINAGE-Cont'd		
Little Pee Dee in South Carolina and the lower Savannah River in Georgia, where flooding began in November. Monthly precipitation totals ranged up to as much as 7 inches over portions of the area.		
EAST GULF OF MEXICO DRAINAGE		
The heavy rains late in November caused rather widespread minor to moderate flooding in the Tombigbee and Pearl River Basins. Streams crested early in December. Headwater tributaries of the Tombigbee, including the East Fork and Noxubee Rivers and Old Town and Tibbee Creeks, reached 1 to 2 feet over flood stage. Downstream on the main Tombigbee crests 1 to 3.5 feet over flood stage occurred at Amory, MS, Pickensville, AL, and Coffeeville, AL. In the Pearl River Basin minor flooding occurred on the Yockanookany and Bogue Chitto Rivers and crests of from less than 1 foot to over 4 feet above flood stage were reported on the Pearl River except at Jackson, MS, which reached more than 12 feet over flood stage.	0	N.A.
UPPER MISSISSIPPI BASIN		
Cold temperatures early in the month with heavy ice formation followed by a midmonth thaw caused numerous ice jams on streams in the basin with minor flooding from backwater on the Rock River at Joslin, IL, the Wapsipinicon River at DeWitt, IA, and the Mississippi River at Fort Ripley, MN. Navigation closed on the Mississippi River at Saint Paul on the 5th and at Guttenberg, IA, by the 22d, leaving a record 76 barges trapped by the ice for the winter.	0	N.A.
MISSOURI RIVER BASIN		
Flooding of agricultural land along the Missouri and Yellowstone Rivers in Montana resulted from ice jams with the Missouri reaching 1.6 feet over flood stage at Landusky, MT.	0	N.A.
OHIO RIVER BASIN		
A combination of snowmelt and heavy rains of up to 4 inches caused rises on streams in the headwaters of the basin the middle of the month. While most streams crested short of flood stage, minor flooding did occur on the Clarion River at Cooksburg, PA, Conewango Creek at Russell, PA, and the Allegheny River at Olean, NY, and Freeport, PA.	0	N.A.
Severe flooding developed in the Wabash Basin the middle of December. As in other areas this was caused by cold weather with heavy snow accumulation early in the month followed by warmer temperatures with rains of 0.5 to 2 inches producing considerable runoff from snowmelt and rain. From 4 to 8 feet of flooding occurred on the middle reach of the Wabash and the Little Wabash Rivers and 4 to 6 feet of flooding on the lower White River. The Embarrass River crested more than 5 feet over flood stage at Lawrenceville, IL, while 1 to 3 feet of flooding was reported on the Eel and East Fork of the White. Minor flooding occurred on the Upper White River. Damage was primarily agricultural with a total of 346,000 acres inundated and some unharvested crops destroyed. Many low-lying county roads and some state roads were	0	4,907

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
OHIO RIVER BASIN-Cont'd		
flooded. Most serious damage occurred along the Wabash River with 137,000 acres affected and losses of $1,630,000 and along the White River, where 57,000 acres were flooded with losses estimated at $1,773,000. Losses on other streams were: Little Wabash, 11,000 acres, $108,000; Embarrass 23,000 acres, $491,000; Eel River, 19,000 acres, $294,000; and East Fork White River, 99,000 acres, $611,000.		
The heavy inflow from the Wabash River caused a substantial rise on the lower Ohio River with flood stage exceeded by about 2 feet at Brookport, IL, and slightly at Cairo.	0	N.A.
WHITE BASIN		
Flooding continued from November on the Cache River at Patterson, AR, with a second crest more than a foot over flood stage on the 8th. Minor flooding also occurred on the White River around Augusta, AR. Flooding at both locations was primarily agricultural land.	0	N.A.
LOWER MISSISSIPPI BASIN		
The heavy rains in late November caused moderate flooding on several streams in the basin early in the month. The Comite River reached 3 feet over flood stage at Comite, LA, and the Amite crested 2 feet over flood stage at Denham Springs, LA. In Mississippi from 5 to nearly 8 feet of flooding occurred along the Big Black River and minor flooding on the Tallahatchee River at Swan Lake.	0	N.A.
WEST GULF OF MEXICO DRAINAGE		
Heavy rains of up to 10 inches on November 29-30 over southern Louisiana caused widespread small stream and urban flooding. Substantial damage occurred around Bundick Lake. Bayou Nezpique reached nearly 4 feet over flood stage at Basille, LA, and the Calcasieu River 3 feet over flood stage at Kinder, LA. From 2 to 4 feet of flooding occurred along Whisky Chitto Creek, and the Mermentau River flooded shipyards at Mermentau but no crest stages are available. Minor flooding occurred on the West Fork Calcasieu and Bayou des Cannes.	0	N.A.
Flooding continued on Pine Island Bayou from November with a second crest 2.3 feet over flood stage at Sour Lake, TX. Minor flooding occurred on Village Creek at Kountze, TX.	0	N.A.
GULF OF CALIFORNIA DRAINAGE		
About an inch of rain over the Las Vegas, NV, metropolitan area on the 28th-29th caused extensive local flooding of streets and highways.	0	N.A.
PACIFIC SLOPE DRAINAGE		
Heavy rains the middle of the month over the northern California coastal drainage caused small stream flooding with some road closures. No flooding occurred on larger streams but warning stage	0	N.A.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

DECEMBER 1977

FLOOD EVENT	Lives Lost	Preliminary Estimate of Property Damage (thousands of dollars)
PACIFIC SLOPE DRAINAGE-Cont'd		
was reached or exceeded on several, including the Smith, Van Duzen, Klamath, and Eel Rivers.		
Minor flooding occurred along the Weiser River in Idaho on the 15th-16th. This resulted from low level snowmelt caused by rains of up to 2 inches. Several hundred acres of farmland were flooded, and several county roads were closed for a day or so.	0	N.A.
Two periods of flooding occurred in western Oregon. On the 1st and 2d up to 8 feet of flooding was reported on north coastal streams including the Nehalem, Wilson, and Siletz Rivers. Minor flooding occurred on several Willamette River tributaries. Flooding developed again on the 13th-14th with overflows of 6 to 9 feet along the Nehalem, Wilson, Nestucca, Siletz, Alsea, and Suislaw Rivers. In the Willamette Basin 4 to 6 feet of flooding developed on tributaries in the lower portion of the basin, including the Tualatin and Clackamus Rivers and Johnson Creek and 3 to 5 feet of flooding occurred on the lower Willamette River. Crest stage reports are generally not available for either period of flooding.	0	N.A.
Severe flooding with record stages on some streams occurred on the 2d-3d on both sides of the Cascades as heavy rains drenched western Washington. Amounts of over 7 inches were reported in 24 hours with 2 to 5 inch amounts common. Record stages were reported by the U.S. Geological Survey on the Nisqually and Washougal Rivers and on streams in the Cowlitz Basin. The Snoqualmie River crested 5 feet over flood stage at Carnation, less than a foot below the record stage. The Snohomish and Chehalis Rivers crested about 6 feet over flood stage at Snohomish and Centralia respectively. Up to 4 feet of flooding occurred along the Yakima River. Some minor flooding occurred on some of these streams on the 13th-14th.	4	39,750

NOTICE

The Office of Hydrology is discontinuing the preparation of the General Summary of National Flood Events and Flood Stage Data after this issue.

FLOOD STAGE DATA

(All dates in December unless otherwise specified)

River and station	Flood stage	Above flood stages —dates		Crest	
		From—	To—	Stage	Date
	Ft.			Ft.	
GREAT LAKES - ST. LAWRENCE DRAINAGE					
Lake Erie					
Raisin River;					
Monroe City, MI	8.5	27	30	12.1	27
St. Marys:					
Decater, IN	15	14	23	22.3	19
Maumee:					
Fort Wayne, IN	15	18	24	18.3	21
Cuyahoga:					
Independence, OH	16	U	U	20.02	15
Chagrin:					
Willoughby, OH	11	U	U	12.03	13
Lake Ontario					
Buffalo Creek:					
Gardenville, NY	7	14	14	7.34	14
Oatka:					
Garbutt, NY	5	15 18	17 21	5.8 6.2	16 20
Black:					
Churchville, NY	5	16	22	6.58	20
ATLANTIC SLOPE DRAINAGE					
Housatonic:					
Gaylordsville, CT	8	16	16	8.4	16
Mohawk:					
Schenectady, NY	223	16	16	223.0	16
Millstone:					
Blackwells Mills, NJ	7	1 19 21	2 19 23	7.28 7.50 9.86	1 19 22
Raritan:					
Manville, NJ	12	21	22	13.36	21
Bound Brook, NJ	26	21	22	27.07	21
Assunpink:					
Trenton, NJ	7	21	21	8.04	21
Neshaminy Creek:					
Langhorne, PA	9	18 21	19 21	9.77 9.26	18 21
Brandywine Creek:					
Downingtown, PA	9	18	18	9.72	18
Chadds Ford, PA	9	18	19	10.44	19
Chemung:					
Chemung, NY	12	15	16	13.78	15
Lumber:					
Lumberton, NC	9	19	Jan 4	9.8	23
Little Pee Dee:					
Galivants Ferry, SC	9	31	Jan 6	9.3	Jan 2
Savannah:					
Clyo, GA	11	Nov 20	21	12.0	15
Old Town Creek:					
Tupelo, MS	21	U	U	23.2	3
East Fork Tombigbee:					
Fulton, MS	16	Nov 30	5	18.1	1
Tibbee Creek:					
Tibbee, MS	23	Nov 30	3	24.4	1
Noxubee:					
Macon, MS	22	1	8	24.0	2
Tombigbee:					
Amory, MS	20	1	6	23.5	2
ATLANTIC SLOPE DRAINAGE-Cont'd					
Tombigbee-Continued:					
Pickensville, AL	130	1	7	132.8	5
Coffeeville Lock & Dam, AL	43	3	7	44.4	5
Yockanookany:					
Ofahoma, MS	14	U	8	15.6	6
Bogue Chitto:					
Franklinton, LA	11	Nov 30	1	E11.5	1
Pearl:					
Edinburg, MS	20	2	7	21.5	4
Carthage, MS	17	Nov 27	9	19.[illegible]	3
Jackson, MS	18	Nov 23	12	30.5	5
Monticello, MS	19	Nov 30	13	#23.1	2,3
Columbia, MS	17	2	7	17.6	5
Bogalusa, LA	15	Nov 23 30	23 Jan 3	A#19.44 #15.61	7 Jan 2
Pearl River, LA	12	Nov 30	22	#14.85	5
UPPER MISSISSIPPI BASIN					
Wapsipinicon River:					
De Witt, IA	10	25	25	10.2	25
Rock River:					
Joslin, IL	12	20	1/	13.3	21
Mississippi River:					
Fort Ripley, MN	10	5	5	10.3	5
MISSOURI RIVER BASIN					
Missouri River:					
Landusky, MT (20 miles south)	25	15	18	26.56	15
OHIO BASIN					
Conewango Creek:					
Russell, PA	8	17	21	# 8.25	19
Clarion:					
Cooksburg, PA	11	14	15	11.53	15
Allegheny:					
Olean, NY	10	15	15	10.05	15
Freeport, PA (Lock 5)	21	15	15	21.8	15
Eel:					
Bowling Green, IN	17	14	15	18.6	15
Embarrass:					
Ste. Marie, IL	18	14	17	#19.9	15
Lawrenceville, IL	11	6 14	8 23	#12.5 16.4	7 19
East Fork White:					
Seymour, IN	14	14	19	16.5	15
Bedford, IN	20	19	20	20.2	20
Williams, IN	8	18	22	8.5	20
White:					
Anderson, IN	10	15	16	10.8	15
Noblesville, IN	14	16	17	14.1	16
Ravenswood, IN	6	17	18	6.2	17
Centerton, IN	MSL602	14	20	603.6 603.[illegible]	14 18
Spencer, IN	14	14	22	17.8 17.7	17 19
Elliston, IN	18	13	23	23.6	18
Edwardsport, IN	15	15	25	20.4	19
Petersburg, IN	16	14	26	21.6	22
Hazelton, IN	16	15	27	22.2	23

FLOOD STAGE DATA

(All dates in December unless otherwise specified)

River and station	Flood stage	Above flood stages –dates		Crest	
		From–	To–	Stage	Date
	Ft			Ft.	
OHIO BASIN-Cont'd					
Little Wabash:					
Clay City 5 SE, IL	16	2 5 14	4 11 22	#17.1 #19.4 20.9	3 7 18
Carmi, IL	20	18	23	#27.7	21
Wabash.					
Bluffton, IN	10	17	21	13.5	18
Lafayette, IN	11	14	23	16.0	16
Covington, IN	16	15	23	20.8	19
Montezuma, IN	14	14	25	19.8 22.1	16 19
Clinton, IN	18	15	24	21.7	20
Terre Haute, IN	14	14	25	18.9	20
Hutsonville, IL	20	21	26	21.5	22
Riverton, IN	15	14	27	19.1	23
Vincennes, IN	16	19	28	#17.9	25
Mount Carmel, IL	19	16	28	#23.6	25
New Harmony, IN	15	18	29	#16.6	26
Red:					
Brookport, IL (Dam 52 Upper)	37	5	14	39.1	11
Cairo, IL	40	7	11	40.1	9
WHITE BASIN					
Cache:					
Patterson, AR	7	Nov 26	28	A 9.31	8
White:					
Augusta, AR	26	16	20	26.8	17
LOWER MISSISSIPPI BASIN					
Tallahatchie:					
Swan Lake, MS	26	2	7	26.4	3
Big Black:					
West, MS	12	Nov 24	7	A17.1	1
Bovina, MS	28	Nov 30	15	35.6	7
Comite:					
Comite, LA	18	Nov 30	2	E21.0	1
Amite:					
Darlington, LA	18	Nov 30	1	18.8	1
Denham Springs, LA	29	1	3	#31.1	2
WEST GULF OF MEXICO DRAINAGE					
Bayou Nezpique:					
Basille, LA	22	Nov 30	6	#25.6	3
Mermentau:					
Mermentau, LA	5	2	8	U	U
Whiskey Chitto Creek:					
Oberlin, LA	15	U	U	U	U
West Fork Calcasieu:					
Sam Houston Park, LA	5	Nov 30	2	# 5.8	1
Calcasieu:					
Hineston, LA	12	Nov 28	17	U	U
Kinder, LA	16	Nov 30	6	#18.74	2
Old Town Bay, LA	4	Nov 30	6	# 6.4	3
Village Creek:					
Kountze, TX (near)	12	16	18	12.47	17
Pine Island Bayou:					
Sour Lake, TX	25	Nov 21	6	A27.32	2

River and station	Flood stage	Above flood stages –dates		Crest	
		From–	To–	Stage	Date
	Ft			Ft.	
PACIFIC SLOPE DRAINAGE					
Weiser:					
Cambridge, ID	12	15	15	12.0	[illegible]
Weiser, ID	9	15	16	10.44	15
Naches:					
Naches, WA	17	1	3	20.10	2
Yakima:					
Parker, WA	10	2	4	13.96	3
Kiona, WA	13	4	6	16.0	4
Tualatin:					
Farmington, OR	29	13	[illegible]	E35.4	15
Clackamas:					
Clackamas, OR	13	13	U	E18.5	14
Johnson Creek:					
Sycamore, OR	8	13	U	13.0	13
Cowlitz:					
Packwood, WA	10.6	1	3	[illegible]	[illegible]
Randle, WA	18	2	[illegible]	26.[illegible]	[illegible]
Skookumchuck:					
Centralia, WA	85	2	3	85.89	[illegible]
Chehalis:					
Centralia, WA	63	2	4	68.7	3
Elwha:					
Port Angeles, WA (near)	16	2	2	16.33	2
Cedar:					
Landsberg, WA	5.6	2	5	6.9	3
Renton, WA	11	3	3	12.55	[illegible]
Skykomish:					
Goldbar, WA	15	1	2	18.40	2
Snoqualmie:					
Carnation, WA	54	2	4	58.86	2
Snohomish:					
Monroe, WA	15	2	4	19.78	[illegible]
Snohomish, WA	25	2	4	31.42	3
Stillaguamish:					
Arlington, WA	16	1	2	18.55	2
Skagit:					
Concrete, WA	29	2	2	29.26	2
Nooksack:					
Deming, WA	12	2	2	12.79	2

A See Previous Months Report for Additional Crest Information.

RAWINSONDE DATA

Average monthly values

DECEMBER 1977

ALBANY, NY
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	86	-5.1	-8.5	26	.7
1000	21	174	-6.4	-10.0	29	.7
950	31	535	-5.1	-8.4	26	3.2
900	31	959	-6.4	-10.4	27	6.3
850	31	1,405	-7.6	-13.5	27	8.8
800	31	1,875	-8.9	-15.4	28	10.0
750	31	2,374	-10.7	-17.9	27	12.8
700	31	2,903	-12.3	-20.8	27	16.2
650	31	3,467	-14.9	-23.9	26	18.4
600	31	4,070	-17.5	-28.2	26	21.5
550	31	4,717	-20.[illegible]	-31.2	26	22.5
500	31	5,416	-25.1	-34.9	26	25.2
450	31	6,173	-30.0	-36.1	26	28.3
400	31	7,002	-36.0	-40.4	26	29.2
350	31	7,920	-42.1	-43.5	27	31.7
300	31	8,947	-47.7		26	34.8
250	31	10,137	-53.0		26	37.2
200	31	11,570	-54.2		26	32.8
175	31	12,431	-53.0		26	31.0
150	31	13,423	-53.[illegible]		26	27.7
125	30	14,594	-55.3		26	25.[illegible]
100	29	16,011	-56.1		26	18.6
80	29	17,423	-58.3		26	15.9
70	29	18,262	-59.1		26	14.0
60	27	19,231	-59.7		26	12.2
50	26	20,368	-60.3		27	10.5
40	24	21,754	-60.4		27	[illegible]
30	23	23,549	-59.8		27	7.[illegible]
25	23	24,688	-59.7		26	8.[illegible]
20	23	26,085	-59.0		27	9.2
15	21	27,891	-57.7		27	12.[illegible]
10	14	30,506	-51.5			

ALBUQUERQUE, NM
838 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,619	.6	-8.0	28	1.1
1000						
950						
900						
850						
800	31	1,991	3.5	-9.3	29	4.6
750	31	2,512	1.[illegible]	-11.1	30	9.6
700	31	3,064	-2.0	-12.8	30	13.[illegible]
650	31	3,650	-5.2	-16.6	30	15.8
600	31	4,275	-8.3	-21.0	29	18.[illegible]
550	31	4,945	-12.2	-25.8	29	21.6
500	31	5,669	-16.3	-29.0	29	24.3
450	31	6,454	-21.5	-33.4	29	27.6
400	31	7,312	-27.1	-39.9	29	31.0
350	31	8,263	-34.4	-44.8	29	33.3
300	31	9,320	-42.7	-45.5	29	38.1
250	31	10,527	-51.2		29	42.4
200	31	11,957	-56.5		29	42.2
175	31	12,803	-57.[illegible]		29	39.0
150	31	13,771	-60.4		29	34.7
125	30	14,899	-63.8		29	30.7
100	30	16,255	-67.9		29	25.[illegible]
80	29	17,599	-68.0		29	17.1
70	29	18,403	-67.0		30	13.0
60	28	19,341	-65.1		30	6.4
50	27	20,450	-64.6		30	4.2
40	26	21,827	-61.9		34	3.[illegible]
30	25	23,615	-60.1		01	2.4
25	21	24,777	-58.8		36	1.6
20	20	26,184	-57.5		35	2.4
15	14	28,020	-56.[illegible]		02	3.[illegible]
10						

AMARILLO, TX
888 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1,095	.3	-10.4	27	2.7
1000						
950						
900						
850	31	1,451	5.8	-8.9	29	7.2
800	31	1,947	4.8	-10.[illegible]	30	8.9
750	31	2,471	2.3	-12.7	29	11.2
700	31	3,025	-.7	-16.[illegible]	29	12.6
650	31	3,613	-4.1	-19.1	29	13.4
600	31	4,240	-8.0	-23.3	30	15.2
550	31	4,910	-12.6	-27.6	30	17.7
500	31	5,631	-17.8	-31.2	29	21.1
450	31	6,411	-22.9	-35.6	29	23.[illegible]
400	31	7,264	-28.8	-40.[illegible]	29	27.0
350	31	8,210	-35.4	-45.6	29	30.7
300	31	9,264	-43.0	-48.6	29	36.5
250	31	10,472	-50.5		29	38.3
200	31	11,906	-55.6		28	37.7
175	31	12,756	-56.3		28	34.5
150	31	13,732	-58.0		28	33.[illegible]
125	31	14,871	-61.8		28	24.6
100	31	16,241	-65.1		28	20.7
80	30	17,596	-67.3		28	13.0
70	30	18,405	-66.1		27	7.3
60	27	19,349	-64.0		28	8.6
50	27	20,470	-62.9		28	4.8
40	26	21,846	-62.2		32	1.8
30	24	23,639	-59.4		33	1.7
25	20	24,790	-58.9		35	2.9
20	18	26,188	-57.8		34	[illegible]
15	13	28,020	-55.7			
10	7	30,628	-52.3			

* ANCHORAGE, AK
1009 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	45	-11.4	-16.2	02	1.6
1000	24	166	-9.2	-12.8	02	2.4
950	31	507	-8.[illegible]	-15.0	02	3.7
900	31	926	-8.7	-15.4	03	2.7
850	31	1,369	-9.6	-16.2	06	1.7
800	31	1,835	-11.6	-18.4	03	1.0
750	31	2,328	-14.[illegible]	-20.9	32	1.0
700	31	2,848	-17.3	-24.3	33	1.6
650	31	3,400	-20.7	-27.7	32	2.4
600	31	3,987	-24.5	-31.2	31	3.7
550	31	4,616	-28.5	-36.5	31	4.9
500	31	5,293	-32.7	-40.3	31	[illegible].0
450	31	6,028	-37.4	-42.2	30	7.[illegible]
400	31	6,832	-43.0	-44.6	30	9.4
350	31	7,724	-48.7		29	10.5
300	31	8,724	-53.1		29	12.5
250	31	[illegible],892	-55.1		28	13.5
200	31	11,321	-53.7		27	13.7
175	31	12,181	-53.1		27	14.[illegible]
150	31	13,177	-52.6		27	15.7
125	31	14,355	-52.7		27	16.4
100	31	15,793	-53.5		27	18.1
80	31	17,227	-54.1		27	18.4
70	31	18,084	-54.4		27	19.3
60	30	19,080	-55.3		27	20.5
50	30	20,243	-55.[illegible]		27	21.9
40	29	21,675	-56.4		27	22.[illegible]
30	28	23,510	-57.4		28	24.[illegible]
25	28	24,663	-57.4		28	26.1
20	25	26,084	-57.4		28	30.[illegible]
15	15	27,970	-55.9		29	34.2
10	6	30,589	-56.2			

* ANNETTE, AK
1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	37	-1.2	-3.7	07	2.6
1000	20	150	-1.6	-5.2	07	2.8
950	31	490	-2.4	-7.3	11	4.5
900	31	918	-4.3	-9.7	15	5.0
850	31	1,367	-6.2	-11.9	18	4.5
800	31	1,840	-8.3	-15.3	20	5.1
750	31	2,339	-10.8	-17.3	21	5.5
700	31	2,866	-13.7	-20.5	23	6.0
650	31	3,426	-17.0	-26.0	24	6.3
600	31	4,023	-20.7	-30.3	25	7.0
550	31	4,661	-24.5	-33.3	25	8.7
500	31	[illegible],349	-29.0	-38.0	25	10.6
450	31	[illegible],094	-34.2	-40.5	26	13.3
400	31	6,909	-39.9	-45.2	26	16.1
350	31	7,813	-45.6		27	18.8
300	31	8,824	-51.6		27	18.9
250	31	[illegible],996	-55.3		28	18.3
200	31	11,422	-54.4		28	17.2
175	31	12,280	-52.8		28	17.7
150	31	13,277	-52.3		28	17.5
125	31	14,456	-52.8		28	16.3
100	31	15,894	-53.4		28	16.5
80	31	17,328	-54.3		28	16.6
70	31	18,183	-54.7		29	17.6
60	30	19,162	-55.8		29	16.0
50	30	20,320	-56.9		29	16.1
40	30	21,731	-57.6		29	16.9
30	28	23,537	-58.6		30	16.4
25	24	24,705	-58.9		30	17.7
20	23	26,120	-59.8		30	20.2
15	17	27,938	-60.6		31	20.7
10	[illegible]	30,538	-60.0			

ATHENS, GA
988 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	246	3.1	-.6	28	1.3
1000						
950	31	563	4.4	-1.6	27	4.4
900	31	1,004	3.8	-4.0	26	7.4
850	31	1,468	2.[illegible]	-6.4	26	10.2
800	31	1,958	2.0	-9.4	26	12.7
750	31	2,478	.2	-11.5	26	14.5
700	31	3,028	-2.5	-15.5	27	16.3
650	31	3,613	-5.2	-19.5	26	19.3
600	31	4,239	-8.3	-22.7	26	21.7
550	31	4,909	-12.3	-27.3	26	23.[illegible]
500	31	5,631	-17.2	-30.[illegible]	26	27.0
450	31	6,412	-22.[illegible]	-35.[illegible]	26	29.5
400	31	7,265	-28.9	-40.7	26	33.1
350	31	8,210	-35.6	-44.5	26	36.5
300	31	9,263	-43.3		26	38.4
250	31	10,471	-50.5		26	43.5
200	31	11,909	-54.9		26	43.6
175	31	12,760	-56.3		26	41.3
150	31	13,733	-58.9		26	36.5
125	31	14,869	-62.3		27	31.3
100	30	16,234	-64.9		27	25.6
80	29	17,593	-65.8		26	16.[illegible]
70	29	18,406	-64.7		26	13.6
60	28	19,349	-64.5		26	10.1
50	27	20,462	-63.4		26	[illegible].3
40	26	21,836	-61.5		27	7.3
30	25	23,634	-59.3		27	5.3
25	25	24,781	-57.[illegible]		27	7.6
20	22	26,194	-55.6		27	[illegible].1
15	18	28,032	-52.4		27	14.7
10	11	30,709	-47.4			

* BARROW, AK
1019 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	28	8	-22.8	-25.5	08	.7
1000	28	152	-19.9	-21.0	12	.6
950	28	535	-16.8	-18.0	28	.[illegible]
900	28	942	-16.3	-18.8	28	1.5
850	28	1,372	-17.4	-20.4	29	2.1
800	28	1,825	-18.[illegible]	-22.2	30	2.7
750	28	2,305	-20.1	-24.9	30	3.7
700	28	2,814	-22.1	-28.5	31	4.7
650	28	3,356	-25.2	-31.9	31	5.5
600	28	3,933	-28.[illegible]	-34.7	31	[illegible].6
550	28	4,551	-32.5	-38.5	30	7.[illegible]
500	28	5,217	-37.0	-41.7	30	8.2
450	28	5,938	-42.0	-39.9	30	9.2
400	28	6,726	-47.6		31	10.2
350	28	7,600	-53.1		31	12.5
300	28	8,578	-58.1		30	13.6
250	28	9,720	-59.4		29	13.6
200	28	11,125	-57.5		28	13.[illegible]
175	27	11,963	-56.9		28	14.4
150	26	12,935	-57.5		28	15.6
125	25	14,080	-58.3		27	17.[illegible]
100	22	15,479	-59.7		27	18.5
80	16	16,882	-60.5		27	21.[illegible]
70	15	17,741	-60.7		27	23.4
60	13	18,679	-61.9		27	24.[illegible]
50	11	19,739	-64.3		27	26.[illegible]
40	8	21,220	-64.3			
30						
25						
20						
15						
10						

BARTER ISLAND, AK
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	15	-21.6	-26.3	26	2.7
1000	31	140	-19.6	-22.[illegible]	27	3.[illegible]
950	31	524	-16.8	-19.9	27	6.6
900	31	931	-16.4	-20.[illegible]	27	7.4
850	31	1,360	-18.1	-21.8	27	[illegible]
800	31	1,812	-19.7	-23.7	27	6.0
750	31	2,289	-21.6	-25.8	28	5.9
700	31	2,795	-23.9	-27.[illegible]	29	[illegible]
650	31	3,334	-26.5	-31.7	30	7.1
600	31	3,908	-29.8	-34.[illegible]	30	7.0
550	31	4,523	-34.0	-37.6	30	[illegible].0
500	31	5,186	-38.2	-40.[illegible]	30	[illegible].0
450	31	5,905	-42.6	-38.9	30	10.5
400	31	6,692	-47.7		30	12.4
350	31	7,567	-52.6		29	14.[illegible]
300	31	8,550	-56.7		29	15.[illegible]
250	31	9,704	-57.2		29	16.1
200	31	11,120	-55.8		29	15.3
175	31	11,971	-55.5		29	16.0
150	30	12,953	-55.5		28	17.[illegible]
125	29	14,113	-56.3		28	19.5
100	29	15,527	-57.4		28	21.7
80	29	16,933	-58.7		28	24.0
70	28	17,768	-59.0		28	26.0
60	25	18,745	-60.2		28	28.0
50	25	19,879	-61.3		28	29.4
40	19	21,287	-62.1		28	34.2
30	19	23,064	-62.9		28	[illegible].5
25	15	24,170	-63.5		28	40.[illegible]
20	13	25,526	-63.3		28	45.0
15	9	27,504	-60.5			
10	5	29,975	-60.1			

BETHEL, AK
1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	39	-12.[illegible]	-15.6	14	.8
1000	25	148	-9.3	-11.7	09	1.[illegible]
950	31	522	-8.2	-13.0	13	2.7
900	31	942	-8.6	-15.5	14	1.[illegible]
850	31	1,384	-9.9	-18.6	26	.7
800	31	1,851	-11.0	-21.7	28	1.5
750	31	2,345	-12.7	-23.0	29	2.6
700	31	2,869	-15.4	-25.1	28	3.3
650	31	3,425	-18.[illegible]	-28.9	29	[illegible]
600	31	4,017	-22.4	-31.9	29	[illegible].0
550	31	4,651	-26.6	-35.4	29	5.6
500	31	[illegible],333	-31.5	-39.1	29	[illegible].7
450	30	6,077	-36.7	-42.0	28	7.6
400	30	6,884	-42.2	-42.3	27	7.2
350	30	7,777	-48.5		27	8.2
300	30	8,775	-54.[illegible]		26	9.8
250	30	9,931	-58.[illegible]		26	10.8
200	30	11,344	-54.9		27	11.1
175	30	12,200	-54.0		26	12.4
150	30	13,191	-53.5		25	12.[illegible]
125	30	14,365	-53.3		26	14.7
100	30	15,803	-53.4		26	15.[illegible]
80	30	17,238	-54.0		26	16.8
70	30	18,095	-54.3		26	18.[illegible]
60	30	19,083	-54.7		26	19.[illegible]
50	30	20,248	-55.3		26	21.1
40	28	21,665	-56.1		27	22.1
30	25	23,516	-56.5		27	20.[illegible]
25	24	24,678	-57.[illegible]		27	21.4
20	23	26,091	-57.5		27	21.1
15	14	27,973	-56.2		27	25.[illegible]
10						

* BISMARCK, ND
954 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	503	-12.8	-16.7	33	1.8
1000						
950	20	579	-16.9	-20.3	32	3.1
900	31	946	-11.5	-14.6	32	5.4
850	31	1,386	-9.6	-14.2	31	8.0
800	31	1,854	-10.4	-15.2	31	9.9
750	31	[illegible],350	-11.8	-18.2	31	11.6
700	31	2,877	-13.8	-19.[illegible]	30	13.7
650	31	[illegible],437	-16.6	-22.[illegible]	30	14.8
600	31	4,035	-19.8	-27.5	30	15.9
550	31	4,676	-23.8	-31.5	30	17.0
500	31	[illegible],365	-28.5	-35.[illegible]	30	18.9
450	31	[illegible],112	-33.7	-39.3	30	20.8
400	31	6,928	-39.7	-43.3	30	22.3
350	31	7,833	-45.3		30	24.9
300	31	[illegible],845	-51.0		29	26.0
250	31	10,022	-54.0		29	27.3
200	31	11,457	-52.7		29	25.8
175	30	12,328	-51.0		29	25.3
150	30	13,330	-51.7		29	23.6
125	30	14,510	-52.5		29	22.3
100	30	15,948	-54.0		29	20.7
80	27	17,372	-55.8		29	16.7
70	26	18,217	-57.0		30	15.0
60	21	19,171	-58.0		30	15.8
50	19	20,312	-58.9		30	14.6
40	17	21,713	-58.6		30	10.7
30	17	23,518	-59.3		30	10.7
25	17	24,659	-59.6		30	10.3
20	14	26,035	-60.8		30	11.9
15	8	27,892	-61.1			
10						

BOISE, ID
916 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	871	2.0	-2.5	13	.9
1000						
950						
900	30	1,017	2.3	-3.3	17	.4
850	31	1,473	.9	-5.3	26	3.2
800	31	1,959	-1.6	-7.1	27	6.[illegible]
750	31	2,470	-4.4	-9.5	27	9.2
700	31	3,011	-7.5	-12.2	28	10.6
650	31	3,585	-10.4	-16.9	28	12.8
600	31	4,198	-13.5	-22.7	28	15.6
550	31	4,855	-17.5	-26.4	28	18.5
500	31	5,562	-22.0	-31.2	28	20.[illegible]
450	31	6,329	-27.3	-35.3	28	23.3
400	31	7,167	-33.4	-40.8	29	25.2
350	31	8,095	-39.9	-42.9	29	28.5
300	31	9,128	-47.6		29	32.5
250	31	10,313	-54.4		29	36.7
200	31	11,734	-56.2		29	35.5
175	31	12,584	-55.3		29	32.1
150	30	13,567	-55.7		28	29.7
125	29	14,722	-57.5		28	25.9
100	29	16,125	-59.1		28	20.1
80	29	17,519	-60.6		28	16.7
70	28	18,350	-60.2		29	12.5
60	28	19,309	-61.4		29	8.8
50	27	20,447	-61.[illegible]		31	7.0
40	23	21,838	-60.2		33	6.4
30	22	23,649	-59.5		34	6.2
25	21	24,800	-58.[illegible]		35	6.8
20	19	26,207	-59.4		01	7.5
15	12	28,044	-59.0		36	6.4
10						

BOOTHVILLE, LA
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	1	11.7	8.7	04	.8
1000	31	152	13.2	8.1	11	.2
950	31	582	10.8	5.3	25	3.3
900	31	1,033	10.0	.0	27	5.0
850	31	1,507	8.7	-4.1	27	6.[illegible]
800	31	2,008	7.1	-7.8	28	9.[illegible]
750	31	2,537	5.0	-10.2	27	11.8
700	31	3,096	2.0	-13.7	27	14.2
650	31	3,691	-.8	-16.7	27	16.5
600	31	4,326	-4.1	-19.7	27	18.[illegible]
550	31	5,007	-8.2	-22.9	27	20.2
500	31	5,740	-13.3	-26.6	27	23.3
450	31	6,534	-18.9	-31.4	26	25.7
400	31	7,401	-25.1	-37.0	26	28.9
350	30	8,358	-32.3	-43.6	27	31.7
300	30	9,424	-40.5	-49.4	27	35.7
250	30	10,643	-49.2		27	41.[illegible]
200	30	12,078	-57.4		27	38.1
175	30	12,916	-60.0		27	37.1
150	29	13,868	-63.6		26	33.5
125	29	14,977	-67.1		26	28.6
100	28	16,312	-70.8		26	22.3
80	27	17,637	-71.0		26	14.9
70	26	18,430	-69.4		26	10.9
60	24	19,361	-66.2		25	9.4
50	23	20,473	-64.5		26	10.[illegible]
40	23	21,844	-62.5		27	6.2
30	23	23,629	-59.6		28	6.3
25	20	24,774	-56.7		28	[illegible].0
20	17	26,212	-53.6		27	10.1
15	16	28,077	-49.5		27	14.9
10	11	30,815	-41.6			

* BROWNSVILLE, TX
1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	7	14.7	12.2	26	.4
1000	31	137	18.0	14.1	16	[illegible].1
950	31	576	17.0	9.[illegible]	17	4.[illegible]
900	31	1,036	15.3	4.[illegible]	18	4.[illegible]
850	31	1,520	14.0	-.[illegible]	22	3.3
800	31	2,029	12.2	-4.1	26	[illegible]
750	31	2,567	9.5	-8.3	28	[illegible].6
700	31	3,136	6.3	-10.7	28	8.[illegible]
650	31	3,740	2.5	-13.[illegible]	28	10.5
600	31	4,382	-1.7	-17.2	28	11.9
550	31	5,069	-5.7	-23.[illegible]	27	13.4
500	31	5,808	-10.8	-27.7	27	14.8
450	31	6,610	-16.6	-31.9	27	16.8
400	31	7,484	-23.1	-35.9	27	19.5
350	31	8,450	-30.7	-43.0	27	22.3
300	31	9,523	-39.1	-49.6	27	26.1
250	31	10,749	-47.9		27	29.[illegible]
200	31	12,190	-57.2		27	32.4
175	31	13,027	-61.2		27	31.1
150	31	13,974	-65.6		27	28.4
125	31	15,071	-69.9		27	25.6
100	31	16,385	-73.8		27	18.3
80	31	17,685	-74.2		27	12.[illegible]
70	30	18,467	-72.2		27	8.8
60	28	19,382	-68.5		26	7.[illegible]
50	28	20,484	-65.2		25	6.7
40	28	21,892	-62.7		25	5.[illegible]
30	27	23,648	-58.5		27	[illegible].3
25	26	24,798	-56.1		27	10.7
20	26	26,230	-52.0		27	14.9
15	24	28,104	-48.9		26	20.9
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BUFFALO, NY
987 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	30	218	-2.9	-6.4	20	2.7
1000						
950	30	516	-3.[illegible]	-6.4	23	[illegible].6
900	30	942	-5.4	-7.9	24	8.4
850	30	1,389	-7.3	-10.8	25	10.[illegible]
800	30	1,860	-9.3	-13.4	26	11.9
750	30	2,358	-11.1	-17.9	26	12.[illegible]
700	30	2,886	-13.[illegible]	-21.2	26	14.7
650	30	3,448	-15.[illegible]	-24.2	26	16.[illegible]
600	30	4,049	-18.7	-27.7	27	18.3
550	30	4,693	-22.3	-31.4	26	19.4
500	30	5,387	-26.5	-35.8	26	21.2
450	30	6,141	-31.7	-40.1	26	22.7
400	30	6,964	-37.3	-42.3	26	25.4
350	30	7,877	-43.4	-44.6	25	28.0
300	30	8,899	-48.6		26	29.2
250	30	10,087	-52.[illegible]		26	30.4
200	30	11,527	-52.7		26	29.7
175	30	12,392	-51.9		26	28.[illegible]
150	30	13,389	-52.6		26	25.4
125	30	14,562	-54.[illegible]		26	22.3
100	29	15,981	-55.[illegible]		26	20.2
80	28	17,399	-57.3		26	15.4
70	28	18,242	-58.4		26	15.3
60	28	19,209	-59.6		26	14.4
50	22	20,327	-59.2		26	9.[illegible]
40	21	21,725	-59.7		26	10.[illegible]
30	21	23,526	-59.5		27	8.[illegible]
25	15	24,660	-58.9		27	8.[illegible]
20	12	26,100	-59.0		30	2.[illegible]
15	7	27,973	-54.0			
10						

CAPE HATTERAS, NC
1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	4	8.0	5.0	30	2.0
1000	30	149	8.8	3.3	30	3.3
950	31	567	6.8	.[illegible]	27	5.3
900	31	1,010	4.7	-3.3	26	7.3
850	31	1,475	3.0	-7.2	26	9.6
800	31	1,965	1.5	-10.[illegible]	26	12.5
750	31	2,483	-.5	-13.[illegible]	26	15.6
700	31	[illegible],032	-2.7	-16.0	26	18.5
650	31	[illegible],617	-5.5	-19.4	26	21.2
600	31	4,241	-8.7	-23.0	26	24.8
550	31	4,911	-12.5	-25.4	26	25.9
500	31	5,632	-17.2	-30.4	26	29.4
450	31	[illegible],414	-22.6	-34.6	26	32.5
400	31	7,268	-28.7	-40.5	26	34.6
350	31	8,214	-35.5	-46.[illegible]	26	38.6
300	31	9,267	-43.1	-45.8	26	44.3
250	31	10,475	-50.5		26	49.1
200	31	11,912	-55.5		26	45.7
175	30	12,753	-56.5		26	44.6
150	29	13,717	-57.6		26	37.2
125	29	14,858	-61.4		26	31.9
100	26	16,240	-64.3		26	27.1
80	25	17,602	-64.8		26	18.0
70	25	18,419	-64.0		26	14.3
60	25	19,363	-64.1		25	11.2
50	23	20,477	-63.2		25	8.6
40	22	21,862	-61.3		25	7.8
30	22	23,655	-59.4		26	7.7
25	21	24,805	-57.8		26	6.3
20	20	26,224	-55.0		26	8.0
15	18	28,058	-52.8		27	12.5
10	15	30,746	-44.8		27	22.9
	[illegible]	33,170	-38.4			

RAWINSONDE DATA

Average monthly values

DECEMBER 1977

• CARIBOU, ME
990 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	191	-9.6	-13.7	30	2.2
1000	7	226	-14.5	-18.8		
950	30	507	-9.4	-12.2	28	4.0
900	30	924	-10.4	-14.0	28	4.8
850	30	1,363	-11.5	-16.5	28	6.2
800	30	1,827	-12.8	-18.1	27	6.2
750	30	2,318	-14.5	-21.6	26	7.2
700	30	2,839	-16.2	-24.9	26	8.0
650	30	3,395	-18.4	-28.5	27	11.4
600	30	3,989	-21.3	-31.0	27	13.3
550	30	4,627	-24.7	-33.5	27	15.7
500	30	5,314	-29.0	-36.2	27	18.0
450	30	6,061	-33.5	-39.2	27	20.1
400	30	6,878	-39.0	-42.7	26	23.8
350	30	7,785	-44.6		27	25.2
300	30	8,803	-49.4		26	28.1
250	30	9,989	-52.6		26	30.1
200	30	11,427	-52.5		26	30.5
175	30	12,291	-52.4		26	27.1
150	29	13,284	-52.7		26	25.5
125	28	14,471	-53.8		26	23.8
100	27	15,898	-55.1		26	19.8
80	27	17,318	-56.5		26	17.4
70	26	18,160	-57.0		26	16.8
60	26	19,133	-58.2		26	14.7
50	22	20,284	-59.5		26	14.6
40	20	21,671	-59.6		26	12.5
30	19	23,470	-60.6		27	12.7
25	16	24,635	-60.2		27	10.8
20	16	26,025	-60.3		28	11.8
15	12	27,815	-60.4		28	14.2
10						

CENTREVILLE, AL
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	140	8.6	-.3	26	.8
1000	18	188	2.3	-3.3	25	.2
950	30	572	5.8	-.2	26	5.1
900	30	1,014	5.4	-5.0	27	8.2
850	30	1,481	4.3	-7.0	27	10.5
800	30	1,973	2.3	-8.8	27	12.8
750	30	2,493	.5	-13.2	27	13.5
700	30	3,043	-2.0	-18.0	27	16.5
650	30	3,630	-4.6	-21.4	27	18.4
600	30	4,256	-8.0	-24.4	27	20.7
550	30	4,927	-11.8	-27.8	26	23.7
500	30	5,650	-16.5	-31.5	26	26.5
450	30	6,434	-21.7	-36.3	26	30.1
400	30	7,291	-27.9	-40.5	26	32.6
350	30	8,239	-35.1	-46.3	26	34.9
300	30	9,294	-43.0		26	37.6
250	28	10,493	-50.7		26	42.1
200	28	11,930	-55.2		27	42.3
175	28	12,780	-56.6		26	38.5
150	28	13,752	-59.4		27	35.5
125	27	14,883	-62.9		27	30.5
100	27	16,247	-65.6		27	25.1
80	26	17,593	-67.1		27	17.8
70	26	18,403	-65.6		26	13.1
60	26	19,341	-64.9		26	8.9
50	26	20,456	-64.3		26	8.3
40	26	21,825	-62.5		27	7.9
30	25	23,615	-59.9		27	5.2
25	25	24,758	-58.3		28	8.6
20	25	26,169	-56.0		27	8.6
15	22	28,018	-52.7		27	12.4
10	15	30,674	-46.4		27	24.6

CHARLESTON, SC
1018 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	13	7.1	3.6	27	1.6
1000	31	155	8.6	3.3	28	2.1
950	31	579	7.8	.1	26	5.5
900	31	1,025	6.4	-3.6	26	7.6
850	31	1,492	5.2	-5.9	26	10.3
800	31	1,987	4.1	-8.5	26	13.0
750	31	2,510	2.3	-11.2	26	14.7
700	31	3,065	-.4	-15.0	26	17.3
650	31	3,654	-3.5	-17.7	26	18.7
600	31	4,283	-7.1	-20.3	26	20.0
550	31	4,956	-11.3	-24.2	26	22.7
500	31	5,681	-16.2	-28.5	26	26.5
450	29	6,470	-21.4	-32.7	26	29.4
400	29	7,328	-27.8	-37.9	26	33.2
350	28	8,274	-34.8	-43.3	26	37.9
300	28	9,331	-42.5	-44.6	26	42.3
250	27	10,536	-50.5		26	47.3
200	27	11,969	-56.8		26	48.2
175	27	12,811	-58.7		26	47.2
150	27	13,775	-60.8		26	41.9
125	27	14,900	-64.1		26	34.3
100	26	16,253	-67.4		26	27.3
80	24	17,605	-67.3		26	19.7
70	24	18,411	-66.8		26	15.6
60	24	19,346	-65.0		26	13.5
50	24	20,463	-63.6		26	10.3
40	23	21,839	-62.2		26	9.7
30	21	23,633	-59.0		27	7.3
25	21	24,780	-57.5		27	6.6
20	18	26,205	-54.4		27	8.1
15	15	28,069	-50.4		27	12.4
10	7	30,777	-43.4			

CHATHAM, MA
1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	16	.5	-2.6	32	.9
1000	29	137	.3	-4.1	31	1.4
950	31	533	-1.8	-5.4	29	3.8
900	31	962	-3.9	-8.4	28	6.1
850	31	1,412	-5.3	-11.9	27	8.6
800	31	1,887	-6.3	-15.6	26	12.0
750	31	2,391	-7.5	-18.6	26	14.6
700	31	2,926	-9.6	-20.4	26	16.6
650	31	3,496	-12.4	-24.4	26	18.2
600	31	4,104	-15.3	-27.3	26	21.7
550	31	4,757	-18.9	-29.6	26	23.6
500	31	5,460	-23.6	-33.8	26	26.3
450	31	6,223	-28.8	-36.6	26	28.9
400	31	7,057	-34.3	-40.5	26	31.3
350	31	7,983	-39.9	-43.5	26	36.6
300	31	9,019	-46.5		26	39.4
250	31	10,212	-52.7		26	39.1
200	30	11,645	-54.8		26	38.5
175	29	12,510	-54.6		26	37.2
150	29	13,496	-55.4		26	33.8
125	26	14,638	-56.8		26	30.8
100	26	16,049	-58.1		26	26.8
80	24	17,447	-59.4		26	21.1
70	24	18,283	-59.7		26	17.3
60	24	19,245	-60.7		26	13.8
50	23	20,374	-61.3		26	12.0
40	23	21,764	-60.4		26	8.5
30	22	23,566	-59.1		27	8.1
25	20	24,718	-58.6		26	7.8
20	18	26,116	-57.1		27	8.3
15	14	27,949	-54.3		26	12.3
10	9	30,542	-50.3			

CHIHUAHUA, MEXICO
859 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,428	4.6	-3.8	24	1.2
1000						
950						
900						
850	30	1,512	8.7	-4.3	24	1.4
800	30	2,018	10.6	-4.8	26	3.5
750	30	2,553	8.2	-7.1	28	5.8
700	30	3,119	4.9	-10.4	28	8.3
650	30	3,720	1.7	-13.7	28	9.9
600	30	4,361	-1.9	-18.1	28	11.7
550	30	5,048	-6.1	-22.6	28	13.7
500	30	5,786	-11.3	-26.7	28	15.1
450	30	6,586	-17.1	-31.8	28	17.3
400	30	7,458	-23.8	-36.6	28	18.9
350	30	8,422	-31.0	-42.0	28	21.6
300	30	9,493	-39.6	-45.7	28	23.6
250	30	10,716	-48.7		28	25.5
200	30	12,155	-56.8		28	28.7
175	30	12,994	-60.0		28	29.4
150	29	13,950	-63.9		28	27.0
125	29	15,056	-68.3		29	24.8
100	27	16,379	-72.0		29	17.8
80	25	17,683	-72.9		29	13.0
70	25	18,469	-71.8		28	9.7
60	24	19,386	-68.4		27	6.3
50	24	20,490	-64.9		27	6.0
40	23	21,863	-62.4		27	5.2
30	21	23,648	-59.3		28	4.9
25	21	24,795	-57.6		27	6.3
20	19	26,212	-55.4		27	7.5
15	15	28,060	-52.0		27	13.6
10						

• COLD BAY, AK
1010 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	30	-1.7	-4.6	10	1.3
1000	24	133	.3	-3.9	06	2.8
950	29	514	-3.2	-7.7	01	3.1
900	29	941	-5.4	-11.3	36	3.1
850	29	1,388	-7.2	-14.8	35	4.8
800	29	1,859	-8.7	-20.1	35	5.1
750	29	2,358	-10.8	-21.7	35	6.1
700	29	2,886	-13.3	-24.5	35	6.3
650	29	3,447	-16.0	-27.1	35	6.2
600	29	4,046	-19.5	-29.9	33	6.3
550	29	4,688	-23.6	-33.5	32	6.2
500	29	5,378	-28.4	-37.1	31	5.0
450	28	6,128	-33.6	-40.5	31	6.1
400	27	6,947	-39.3	-44.2	29	7.2
350	27	7,851	-45.9		29	8.6
300	27	8,859	-52.7		28	8.7
250	27	10,022	-57.9		27	10.3
200	26	11,428	-54.3		26	9.2
175	26	12,286	-53.0		26	10.3
150	26	13,282	-52.3		26	12.2
125	24	14,456	-50.8		25	12.4
100	24	15,907	-51.2		26	13.6
80	23	17,365	-51.4		26	14.6
70	23	18,233	-51.5		25	15.6
60	22	19,227	-52.4		25	16.2
50	21	20,398	-52.7		26	16.6
40	20	21,839	-54.1		26	15.8
30	17	23,686	-54.3		26	17.3
25	17	24,855	-53.7		26	18.8
20	14	26,273	-55.0		26	20.1
15	8	28,182	-52.9			
10						

DAYTON, OH
978 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	299	-3.1	-6.7	23	2.4
1000						
950	31	529	-2.8	-6.3	24	5.5
900	31	957	-3.7	-8.7	25	8.6
850	30	1,411	-4.7	-10.6	26	10.3
800	30	1,887	-6.2	-14.0	26	11.6
750	30	2,391	-7.9	-15.3	26	13.7
700	30	2,925	-10.5	-18.7	27	15.7
650	30	3,493	-12.8	-22.8	27	18.2
600	30	4,101	-15.5	-25.7	27	20.6
550	30	4,753	-19.8	-28.9	26	22.6
500	30	5,453	-24.8	-35.0	26	24.1
450	30	6,213	-29.8	-40.5	26	27.0
400	30	7,043	-35.0	-43.5	26	31.2
350	29	7,972	-41.0	-47.2	26	31.9
300	29	9,002	-47.4		27	33.7
250	28	10,191	-52.1		27	35.5
200	27	11,628	-53.4		27	34.8
175	26	12,491	-52.5		27	30.2
150	25	13,489	-54.2		27	26.9
125	24	14,646	-55.8		27	21.8
100	22	16,067	-58.3		27	19.2
80	20	17,462	-60.4		27	11.4
70	20	18,293	-61.0		27	8.3
60	17	19,253	-61.8		28	8.7
50	15	20,389	-61.8		27	8.2
40	11	21,781	-61.2		29	5.2
30	11	23,568	-60.7		30	8.5
25	10	24,692	-61.8		29	8.2
20	9	26,081	-61.0			
15	7	27,873	-58.4			
10						

DEL RIO, TX
980 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	314	7.3	1.9	05	.9
1000						
950	31	573	10.9	.1	16	.9
900	31	1,026	12.4	-2.5	23	2.3
850	31	1,505	12.1	-3.5	26	4.7
800	31	2,011	10.2	-6.6	28	7.2
750	31	2,544	7.1	-9.7	28	10.3
700	31	3,108	3.8	-13.4	28	11.8
650	31	3,707	.6	-15.1	28	14.0
600	31	4,345	-3.0	-18.8	28	15.3
550	31	5,028	-7.3	-22.9	28	17.1
500	31	5,764	-12.1	-27.8	28	18.8
450	31	6,561	-18.0	-32.0	28	20.7
400	31	7,430	-24.7	-38.3	28	22.5
350	31	8,389	-32.3	-44.4	28	23.9
300	31	9,455	-40.6	-48.4	28	28.4
250	31	10,673	-49.5		28	33.1
200	30	12,112	-57.1		28	36.7
175	30	12,951	-59.7		28	34.9
150	30	13,907	-63.6		28	31.0
125	30	15,015	-67.6		28	27.2
100	30	16,347	-71.2		28	21.4
80	30	17,662	-72.2		28	15.2
70	29	18,451	-70.6		28	11.3
60	27	19,368	-68.1		27	8.6
50	27	20,473	-64.9		26	7.3
40	24	21,840	-63.0		27	6.3
30	24	23,624	-60.0		27	6.4
25	23	24,774	-57.9		28	7.1
20	23	26,189	-55.5		27	9.5
15	18	28,052	-52.9		27	13.2
10	9	30,674	-48.7			

DENVER, CO
833 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,611	-1.3	-11.2	27	2.1
1000						
950						
900						
850						
800	31	1,931	1.9	-11.9	28	5.4
750	31	2,450	-.3	-14.6	29	9.3
700	31	2,999	-4.1	-17.1	29	13.6
650	31	3,579	-8.0	-19.8	30	16.3
600	31	4,196	-11.8	-23.3	30	17.7
550	31	4,857	-16.4	-27.2	31	18.8
500	31	5,567	-21.3	-32.2	30	20.8
450	31	6,337	-26.3	-38.3	30	22.7
400	31	7,177	-32.8	-42.8	30	25.9
350	31	8,106	-39.9	-44.9	30	29.7
300	31	9,141	-46.8		30	31.8
250	31	10,334	-52.4		29	33.1
200	31	11,765	-55.2		29	32.3
175	31	12,620	-54.3		28	32.9
150	31	13,605	-55.6		28	27.8
125	31	14,758	-58.4		28	23.7
100	31	16,153	-61.3		28	15.5
80	31	17,535	-62.5		29	8.7
70	31	18,358	-62.6		29	7.9
60	30	19,309	-62.0		30	5.7
50	29	20,436	-61.3		31	4.0
40	29	21,820	-61.1		32	2.9
30	27	23,616	-59.8		33	2.8
25	24	24,752	-58.9		34	3.6
20	22	26,160	-58.5		35	4.3
15	17	27,964	-57.5		29	8.1
10						

DODGE CITY, KS
922 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	791	-2.6	-8.2	27	2.2
1000						
950						
900	30	987	1.4	-8.1	29	3.9
850	31	1,443	3.7	-10.2	30	6.4
800	31	1,934	2.0	-12.4	31	8.8
750	31	2,452	-.8	-14.1	31	10.7
700	31	2,999	-4.5	-16.0	30	12.7
650	31	3,579	-7.9	-19.5	30	14.8
600	31	4,197	-11.8	-23.9	29	16.0
550	31	4,858	-15.9	-27.3	29	18.0
500	31	5,570	-20.5	-32.2	29	21.4
450	31	6,342	-25.6	-37.7	29	23.7
400	31	7,186	-32.0	-42.1	29	25.6
350	31	8,118	-39.0	-46.6	29	28.0
300	31	9,155	-46.5		29	32.9
250	31	10,348	-52.6		29	36.5
200	31	11,780	-54.3		29	37.0
175	31	12,635	-54.8		29	35.2
150	31	13,618	-56.7		28	33.0
125	31	14,767	-59.2		29	27.5
100	30	16,160	-62.7		28	20.6
80	30	17,530	-64.0		29	14.1
70	30	18,348	-64.0		28	11.2
60	28	19,297	-63.2		29	8.3
50	28	20,420	-62.6		30	4.1
40	28	21,799	-61.5		30	3.4
30	24	23,584	-60.5		31	2.4
25	23	24,730	-59.3		32	2.0
20	22	26,129	-58.6		30	4.2
15	20	27,942	-57.6		29	6.3
10	7	30,525	-52.5			

EL PASO, TX
883 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,193	5.3	-7.9	25	.9
1000						
950						
900						
850	31	1,505	8.9	-6.5	29	3.3
800	31	2,006	7.5	-8.3	29	6.8
750	31	2,535	5.1	-10.3	28	10.2
700	31	3,095	2.3	-13.4	28	11.7
650	31	3,690	-.7	-17.4	29	12.7
600	31	4,325	-4.5	-21.1	29	14.3
550	31	5,004	-9.1	-24.1	29	16.0
500	31	5,735	-13.7	-27.6	28	18.2
450	31	6,528	-19.4	-32.1	29	21.7
400	31	7,392	-25.7	-37.5	29	24.9
350	31	8,348	-33.8	-43.5	29	27.7
300	29	9,410	-41.5	-48.3	29	32.8
250	29	10,622	-50.7		29	35.8
200	28	12,047	-57.8		29	38.1
175	28	12,886	-60.1		28	36.8
150	28	13,841	-63.1		28	32.2
125	28	14,953	-66.9		28	26.3
100	28	16,289	-70.4		29	22.0
80	27	17,609	-70.2		29	15.7
70	27	18,405	-69.0		29	11.8
60	25	19,334	-65.9		29	7.8
50	25	20,443	-64.8		28	5.5
40	24	21,814	-61.6		30	3.9
30	24	23,604	-59.7		28	2.8
25	23	24,749	-58.4		28	2.9
20	22	26,158	-57.1		28	5.7
15	17	27,965	-54.5		27	8.4
10	6	30,599	-45.3			

ELY, NV
809 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	1,908	-4.5	-12.6	20	2.9
1000						
950						
900						
850						
800	29	1,996	.0	-7.3	21	2.8
750	30	2,510	-.8	-9.6	25	3.9
700	30	3,057	-4.1	-11.8	27	8.7
650	30	3,639	-6.8	-16.0	29	13.1
600	30	4,260	-10.3	-19.6	29	16.8
550	30	4,925	-14.5	-23.3	29	18.8
500	30	5,641	-18.9	-28.1	29	21.4
450	28	6,417	-24.5	-33.2	29	22.8
400	28	7,264	-30.7	-38.7	28	24.4
350	28	8,202	-37.5	-43.4	28	27.0
300	28	9,246	-45.1		28	31.3
250	27	10,444	-52.6		28	38.5
200	26	11,872	-57.2		28	39.6
175	26	12,715	-58.2		29	36.2
150	24	13,681	-59.9		29	33.8
125	24	14,816	-61.5		29	27.5
100	24	16,192	-63.6		29	19.9
80	24	17,554	-65.7		29	12.5
70	24	18,367	-65.5		30	9.4
60	24	19,307	-64.7		31	7.2
50	22	20,428	-62.8		33	4.6
40	22	21,806	-62.0		36	4.0
30	21	23,595	-60.4		02	4.3
25	19	24,745	-59.3		04	5.3
20	17	26,142	-59.1		04	5.7
15	11	27,965	-58.2			
10						

EMPALME, MEXICO
1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	12	14.2	6.0	32	1.5
1000	30	119	19.6	8.1	34	2.1
950	30	562	21.0	3.1	01	2.5
900	30	1,028	18.9	.0	35	.3
850	30	1,515	15.9	-2.1	25	1.1
800	30	2,027	12.7	-4.2	27	1.5
750	30	2,565	9.7	-8.3	28	3.5
700	30	3,134	6.4	-11.4	29	4.9
650	30	3,739	3.1	-14.8	29	6.1
600	30	4,383	-.8	-18.2	28	8.0
550	30	5,072	-5.2	-20.3	28	10.4
500	30	5,813	-10.5	-24.3	28	12.8
450	30	6,616	-15.9	-29.0	28	15.0
400	30	7,491	-22.8	-34.4	28	16.4
350	30	8,460	-29.9	-40.1	28	19.0
300	30	9,536	-38.3	-46.6	28	21.5
250	30	10,764	-47.8		28	25.4
200	30	12,210	-55.9		29	27.0
175	30	13,053	-59.5		29	28.2
150	30	14,009	-63.3		28	25.9
125	30	15,118	-67.5		29	21.0
100	30	16,447	-71.6		29	16.1
80	29	17,759	-73.2		29	11.3
70	28	18,544	-72.0		29	8.5
60	25	19,458	-68.8		29	5.9
50	24	20,562	-64.5		29	4.4
40	24	21,936	-61.5		27	4.8
30	22	23,740	-59.0		28	5.5
25	22	24,888	-57.4		27	6.0
20	22	26,308	-54.4		28	8.3
15	20	28,160	-50.7		27	12.8
10	7	30,778	-48.8			

• FAIRBANKS, AK
1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	29	135	-26.0	-25.8	02	.4
1000	14	211	-22.8	-24.7	06	.7
950	29	527	-17.6	-20.3	11	1.9
900	29	934	-14.8	-19.5	14	2.0
850	29	1,367	-14.4	-20.3	20	1.2
800	29	1,826	-15.3	-21.4	25	1.5
750	29	2,313	-16.8	-23.0	27	3.4
700	29	2,828	-19.6	-26.6	27	4.5
650	29	3,375	-22.8	-30.0	27	5.8
600	29	3,958	-26.6	-33.1	27	6.6
550	29	4,581	-30.7	-36.0	27	6.8
500	29	5,252	-34.8	-39.7	28	7.4
450	29	5,980	-39.6	-40.0	28	8.9
400	28	6,777	-44.8	-41.8	28	10.4
350	25	7,642	-50.1		29	12.8
300	25	8,637	-54.3		29	13.5
250	24	9,790	-56.0		29	14.6
200	24	11,214	-54.2		28	15.8
175	24	12,071	-54.0		28	14.9
150	24	13,060	-53.9		28	16.0
125	23	14,231	-54.3		27	17.6
100	22	15,670	-54.8		27	19.8
80	21	17,094	-55.9		27	22.1
70	21	17,943	-56.4		28	22.8
60	19	18,954	-57.5		28	24.5
50	17	20,125	-58.3		28	27.8
40	15	21,501	-59.9		28	29.4
30	9	23,377	-58.2			
25	8	24,603	-57.4			
20	5	25,962	-58.7			
15						
10						

FLINT, MI
983 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	236	-4.3	-6.1	21	2.4
1000						
950	30	505	-5.0	-7.6	25	4.2
900	30	930	-6.1	-8.8	26	6.6
850	30	1,376	-7.3	-12.4	26	8.5
800	30	1,848	-8.7	-15.1	26	9.7
750	30	2,347	-10.2	-17.8	26	11.3
700	30	2,876	-12.3	-21.4	26	13.1
650	30	3,440	-14.8	-23.3	26	14.8
600	30	4,042	-18.3	-25.7	26	15.8
550	30	4,687	-22.3	-29.2	26	17.0
500	30	5,381	-26.7	-33.9	27	19.4
450	30	6,134	-31.7	-37.6	26	21.7
400	30	6,957	-37.8	-39.2	26	24.1
350	28	7,875	-43.9	-44.0	26	25.8
300	28	8,895	-49.1		26	29.0
250	27	10,077	-52.0		26	30.8
200	27	11,522	-52.0		26	30.4
175	26	12,391	-51.0		26	27.1
150	26	13,393	-51.5		26	25.0
125	26	14,571	-53.6		27	23.1
100	26	15,996	-56.4		27	20.1
80	26	17,409	-57.4		27	16.6
70	25	18,259	-58.3		27	13.0
60	25	19,228	-59.1		27	9.9
50	25	20,369	-59.9		27	6.7
40	23	21,758	-60.5		28	6.3
30	20	23,550	-59.6		28	5.9
25	18	24,713	-59.2		29	5.4
20	16	26,104	-59.2		30	5.2
15	9	27,926	-57.1			
10						

RAWINSONDE DATA

Average monthly values

DECEMBER 1977

Standard pressure surface mb.	GLASGOW, MT 932 MB						GRAND JUNCTION, CO 853 MB						* GREAT FALLS, MT 884 MB						GREEN BAY, WI 986 MB						GREENSBORO, NC 984 MB					
	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m.p.s.
SFC	31	696	-13.4	-15.9	34	.8	31	1,472	-2.6	-6.7	13	.5	31	1,118	-8.9	-13.9	23	3.4	31	210	-8.5	-10.9	26	1.5	31	275	.3	-3.6	26	.8
1000																														
950																			31	496	-7.9	-10.2	29	2.1	31	561	2.6	-3.8	27	3.8
900	31	960	-10.2	-13.4	31	3.4													31	917	-8.2	-11.5	29	3.4	31	998	2.0	-5.7	26	6.5
850	31	1,402	-9.0	-13.8	31	7.4	23	1,519	-1.9	-8.5	13	1.1	31	1,424	-6.2	-13.3	25	7.2	31	1,360	-9.1	-13.8	28	4.4	31	1,459	1.0	-8.0	26	8.1
800	31	1,871	-9.6	-15.1	31	10.0	31	1,983	.3	-9.5	21	1.9	31	1,898	-6.9	-13.4	27	8.8	31	1,829	-10.2	-15.8	28	6.2	31	1,946	-.6	-10.6	26	10.7
750	31	2,369	-11.0	-16.7	30	12.6	31	2,499	-2.2	-12.1	26	5.2	31	2,400	-8.8	-14.4	28	11.0	31	2,324	-12.0	-18.8	28	8.5	31	2,460	-2.5	-13.7	27	13.2
700	31	2,896	-13.8	-19.2	30	14.2	31	3,043	-5.5	-13.8	27	9.4	31	2,931	-11.7	-18.6	29	14.1	31	2,850	-14.4	-21.9	28	10.7	31	3,006	-4.5	-17.0	27	15.7
650	31	3,457	-16.8	-22.4	30	16.3	31	3,621	-9.0	-16.5	28	12.1	31	3,496	-14.7	-22.0	29	15.7	31	3,409	-16.9	-25.4	28	12.3	31	3,587	-6.8	-19.3	27	18.9
600	31	4,054	-19.9	-26.4	30	18.4	31	4,237	-12.4	-21.4	29	14.7	31	4,098	-18.2	-25.8	29	18.9	31	4,007	-20.1	-27.9	28	13.6	31	4,208	-10.4	-23.5	27	21.2
550	31	4,695	-24.0	-30.7	30	19.7	31	4,897	-16.1	-25.8	29	18.0	31	4,744	-21.8	-31.3	30	21.3	31	4,647	-23.9	-31.1	28	15.9	31	4,873	-14.4	-27.5	27	23.9
500	31	5,384	-28.6	-34.5	30	21.0	31	5,609	-20.4	-30.4	30	20.7	31	5,440	-26.2	-33.7	30	23.0	31	5,337	-28.2	-35.7	28	18.6	31	5,588	-19.4	-33.9	27	27.6
450	31	6,132	-33.3	-39.2	30	22.6	31	6,381	-25.5	-34.9	29	24.6	31	6,193	-31.4	-37.7	30	24.4	31	6,085	-33.5	-38.8	28	20.8	31	6,364	-24.4	-38.6	27	31.5
400	31	6,950	-38.9	-42.6	30	23.6	31	7,226	-31.4	-40.7	30	29.1	31	7,017	-37.5	-42.3	30	25.9	31	6,901	-39.4	-44.0	28	21.5	31	7,212	-30.6	-41.0	26	31.6
350	31	7,856	-45.2		30	26.4	31	8,161	-37.9	-44.2	30	34.3	31	7,928	-44.1		30	29.5	31	7,807	-45.4		28	23.5	31	8,150	-37.7	-45.4	27	32.5
300	31	8,869	-51.1		30	29.9	31	9,204	-45.6		30	39.4	31	8,946	-50.2		30	32.2	31	8,819	-50.7		27	28.2	30	9,189	-45.1		26	36.3
250	31	10,045	-54.3		30	29.1	31	10,399	-52.7		29	41.6	31	10,122	-54.8		30	31.3	31	10,001	-53.1		27	26.3	30	10,391	-51.0		26	40.2
200	31	11,477	-53.0		30	27.3	31	11,825	-55.9		29	40.1	31	11,549	-54.1		29	26.8	31	11,443	-51.3		27	24.1	30	11,829	-54.4		26	38.6
175	31	12,339	-52.6		30	26.0	31	12,675	-55.7		29	38.0	31	12,408	-53.1		29	25.5	31	12,312	-50.9		26	22.0	30	12,682	-55.7		27	36.6
150	31	13,336	-51.9		30	25.4	31	13,656	-56.3		29	34.4	31	13,401	-53.5		29	25.0	31	13,314	-51.4		27	21.5	30	13,660	-57.5		26	34.1
125	31	14,516	-52.7		30	24.5	29	14,813	-59.0		29	25.5	30	14,571	-54.0		29	23.3	31	14,496	-52.9		27	19.0	30	14,805	-60.2		27	28.4
100	30	15,954	-54.1		30	20.8	28	16,200	-62.5		29	18.2	30	16,000	-54.8		29	20.1	31	15,928	-55.3		27	17.3	30	16,187	-62.9		27	21.8
80	29	17,385	-55.9		30	18.3	27	17,568	-65.0		29	13.2	28	17,423	-56.2		29	15.7	28	17,336	-57.1		27	13.9	30	17,557	-63.7		27	17.1
70	29	18,234	-56.5		30	17.4	25	18,383	-64.1		30	10.8	28	18,269	-57.3		29	13.4	28	18,180	-57.4		28	12.7	30	18,377	-63.5		27	12.6
60	28	19,215	-57.4		30	15.7	23	19,337	-63.1		31	5.8	27	19,245	-57.9		29	13.1	26	19,147	-58.2		28	10.2	29	19,325	-63.8		26	10.9
50	28	20,364	-58.2		31	12.4	21	20,457	-61.8		34	4.3	21	20,390	-58.6		31	11.5	26	20,293	-58.8		28	7.7	28	20,442	-62.4		27	9.7
40	28	21,767	-58.9		31	11.6	18	21,854	-60.3		02	3.4	19	21,791	-58.5		31	7.7	25	21,687	-59.6		29	6.1	26	21,827	-61.8		28	7.2
30	27	23,576	-58.7		32	10.7	13	23,667	-59.3		04	6.5	17	23,614	-58.6		32	9.9	23	23,498	-60.0		31	5.6	25	23,612	-59.9		28	5.0
25	23	24,725	-59.0		32	12.1	10	24,801	-58.7				14	24,735	-59.6		32	9.6	19	24,635	-59.4		32	6.8	25	24,754	-58.7		27	3.6
20	21	26,118	-60.5		32	12.4	6	26,214	-57.9				10	26,157	-59.3		32	10.6	17	26,044	-59.3				25	26,163	-56.6		28	4.7
15	13	27,945	-61.6		33	15.3							7	28,018	-60.4				12	27,842	-59.0				22	28,003	-53.6		28	12.7
10																									13	30,624	-47.1		27	21.4

Standard pressure surface mb.	* GUAM, MARIANA IS. 1000 MB						HILO, HI 1015 MB						HUNTINGTON, WV 986 MB						* INTERNATIONAL FALLS, MN 969 MB						* ISLE DEL CISNE 1012 MB					
SFC	31	111	24.8	21.7	08	4.4	31	10	19.9	17.3	26	1.5	30	246	-.2	-4.6	23	1.7	31	359	-16.5	-20.9	31	.5	31	10	25.9	21.9	08	3.8
1000	19	118	25.0	21.0	07	4.5	31	136	21.3	17.0	28	1.0													31	117	25.7	22.1	07	4.9
950	31	559	22.4	19.6	07	9.5	31	580	18.4	15.4	05	1.3	30	543	-.3	-5.2	23	6.1	31	506	-15.2	-16.4	35	1.3	31	567	22.1	19.5	08	6.6
900	31	1,029	19.5	16.1	08	9.2	31	1,042	15.2	12.7	08	1.7	30	975	-2.1	-6.7	24	10.0	31	916	-14.1	-15.0	34	1.8	31	1,036	18.9	15.2	09	6.4
850	31	1,520	16.9	11.2	08	7.4	31	1,525	12.3	9.3	08	2.1	30	1,428	-3.1	-8.9	25	12.4	31	1,351	-13.4	-16.7	29	2.1	31	1,526	15.9	10.7	09	5.8
800	31	2,037	15.9	3.4	08	5.9	31	2,033	10.9	2.3	06	2.5	30	1,907	-5.0	-11.7	26	14.2	31	1,812	-14.2	-18.8	29	4.1	31	2,040	13.5	6.7	09	5.3
750	31	2,584	14.2	-3.0	09	5.3	31	2,571	9.9	-6.6	04	1.8	30	2,413	-6.6	-15.1	26	15.8	31	2,300	-15.8	-20.9	29	5.7	31	2,581	10.7	4.4	10	5.0
700	31	3,163	11.5	-6.0	09	5.2	31	3,142	7.7	-12.0	03	1.5	30	2,951	-8.4	-18.6	26	18.0	31	2,818	-17.8	-23.5	29	7.1	31	3,155	8.2	-2.2	11	4.3
650	31	3,779	8.3	-10.0	09	5.1	31	3,749	5.0	-14.7	33	2.0	30	3,523	-10.7	-21.9	26	19.3	31	3,370	-20.3	-27.5	29	9.3	31	3,764	5.7	-9.3	10	3.3
600	31	4,436	4.7	-14.8	09	6.0	31	4,398	1.3	-18.2	32	2.9	30	4,135	-13.8	-25.4	26	20.8	31	3,960	-23.4	-30.8	29	10.5	31	4,415	2.4	-13.5	11	2.3
550	31	5,139	.3	-18.4	09	6.0	31	5,093	-2.7	-21.6	31	4.1	30	4,791	-17.8	-29.8	26	24.3	31	4,592	-27.0	-34.5	29	12.0	31	5,112	-2.0	-19.2	11	1.8
500	31	5,896	-4.5	-22.5	09	5.8	31	5,842	-7.5	-26.1	30	6.1	30	5,497	-22.6	-33.1	26	26.7	31	5,273	-31.2	-38.1	29	14.0	31	5,863	-6.8	-22.7	12	.7
450	31	6,718	-9.6	-26.9	08	4.9	31	6,653	-12.9	-31.1	29	8.7	30	6,263	-27.5	-38.2	26	30.1	31	6,012	-36.3	-40.9	29	16.5	31	6,678	-12.3	-28.0	28	.3
400	31	7,617	-15.7	-32.2	08	4.2	31	7,542	-18.7	-35.0	29	12.3	30	7,101	-33.4	-43.1	27	31.7	31	6,819	-42.2	-45.6	28	19.5	31	7,566	-18.8	-33.7	26	1.8
350	30	8,614	-22.4	-38.4	07	4.5	31	8,528	-25.2	-40.3	29	15.1	29	8,028	-40.1	-46.7	27	34.2	31	7,714	-47.7		29	22.1	31	8,550	-26.2	-38.5	26	3.0
300	30	9,725	-30.8	-45.8	05	3.4	31	9,626	-33.1	-47.1	29	18.8	29	9,062	-46.7		27	37.4	31	8,717	-52.8		28	23.7	31	9,642	-35.0	-45.2	24	4.1
250	30	10,992	-40.9	-51.5	06	1.9	31	10,884	-42.1	-53.7	29	20.7	28	10,252	-51.9		26	37.9	30	9,897	-53.7		28	22.3	30	10,887	-45.1		25	7.9
200	30	12,470	-53.1		08	.8	31	12,360	-52.6		29	22.4	28	11,693	-52.8		27	36.7	30	11,339	-51.6		29	21.4	30	12,341	-56.2		24	12.2
175	30	13,318	-59.8		13	1.3	31	13,211	-58.5		29	19.9	28	12,553	-53.6		27	34.3	29	12,202	-50.7		28	21.5	30	13,179	-61.6		24	13.2
150	30	14,264	-67.5		14	2.4	31	14,164	-65.4		28	18.4	28	13,541	-55.1		27	31.5	29	13,207	-50.9		29	20.1	30	14,122	-66.9		25	12.3
125	30	15,341	-75.5		14	4.7	31	15,255	-72.5		28	14.9	27	14,698	-57.7		27	28.9	29	14,392	-52.1		29	19.9	29	15,210	-72.0		25	12.8
100	30	16,606	-82.8		11	5.6	31	16,545	-78.5		27	6.1	24	16,102	-59.4		27	23.1	29	15,831	-53.9		28	18.0	28	16,504	-77.4		25	9.4
80	27	17,847	-82.8		10	7.8	30	17,813	-78.9		25	1.9	24	17,492	-61.4		27	19.1	29	17,261	-54.8		29	16.8	27	17,773	-79.4		23	4.0
70	25	18,597	-79.0		10	9.1	30	18,578	-75.9		10	.7	24	18,320	-61.7		27	15.6	29	18,113	-55.9		29	14.4	25	18,536	-76.0		17	2.0
60	25	19,488	-73.0		10	8.9	28	19,479	-71.3		09	1.8	24	19,274	-62.2		27	12.4	29	19,093	-56.6		29	14.2	24	19,439	-70.2		12	2.5
50	24	20,576	-66.9		09	8.5	28	20,571	-66.6		08	2.4	24	20,401	-61.6		27	10.4	29	20,246	-58.1		29	12.3	24	20,535	-66.2		10	3.2
40	24	21,941	-61.7		09	5.0	28	21,933	-63.0		08	1.2	20	21,780	-61.1		27	8.4	29	21,648	-59.1		29	11.4	24	21,902	-61.8		12	1.7
30	22	23,747	-57.0		26	1.8	27	23,735	-56.6		33	1.9	18	23,584	-59.1		27	6.2	28	23,458	-60.2		30	9.3	24	23,712	-54.8		29	4.7
25	22	24,908	-54.2		27	6.5	27	24,900	-53.7		30	3.6	17	24,719	-59.1		28	7.3	26	24,613	-60.5		30	10.6	23	24,883	-51.8		29	8.8
20	22	26,355	-49.7		28	11.8	27	26,340	-52.2		28	5.0	15	26,125	-58.0		27	9.2	20	26,031	-61.4		31	9.8	22	26,341	-48.3		28	12.6
15	21	28,251	-46.7		28	14.8	25	28,212	-49.6		26	8.7	12	27,943	-56.0		27	14.3	12	27,847	-60.0		31	10.7	22	28,249	-45.6		28	17.0
10	13	30,987	-41.8		27	16.1	18	30,920	-41.7		26	17.2	6	30,588	-51.5				8	30,428	-59.1				16	30,987	-40.0		27	18.3

Standard pressure surface mb.	JACKSON, MS 1006 MB						JOHN F. KENNEDY INT. AP NY 1016 MB						JOHNSTON IS., PACIFIC AREA 1013 MB						KEY WEST, FL 1017 MB						KING SALMON, AK 1013 MB					
SFC	31	100	5.8	1.8	19	.3	31	5	.1	-6.7	31	1.4	31	3	25.3	21.1	08	6.7	31	[illegible]	20.6	16.8	04	1.6	24	15	-15.7	-22.3	36	1.6
1000	27	164	4.5	-1.1	15	.2	29	145	-.3	-5.8	30	2.1	31	115	24.0	19.5	07	6.9	31	152	20.2	16.0	07	2.6	19	163	-11.6	-15.6	04	2.4
950	31	572	5.9	-1.1	25	4.3	31	543	-2.2	-7.1	29	4.1	31	563	20.4	17.5	08	7.6	31	594	17.5	12.7	11	2.5	24	508	-12.1	-17.4	01	4.5
900	31	1,015	6.1	-4.8	27	7.0	31	972	-3.5	-9.1	28	6.4	31	1,028	17.2	14.3	08	7.3	31	1,056	15.5	9.5	18	1.9	24	922	-11.2	-18.9	36	4.7
850	31	1,483	5.5	-6.7	28	9.0	31	1,423	-4.8	-13.1	27	9.5	31	1,515	14.2	11.2	09	6.5	31	1,540	13.4	4.4	24	3.1	24	1,362	-10.6	-20.7	34	4.7
800	31	1,977	3.5	-10.6	27	11.2	31	1,899	-5.7	-14.7	27	11.8	31	2,026	12.8	1.5	09	5.2	31	2,049	11.8	-.1	26	5.2	24	1,828	-12.1	-22.3	34	5.3
750	31	2,499	1.4	-14.4	27	13.6	31	2,404	-7.5	-17.7	26	13.9	31	2,569	12.2	-5.8	08	3.4	31	2,587	9.6	-4.5	26	6.3	24	2,319	-14.2	-24.6	33	6.4
700	31	3,051	-1.3	-17.3	27	16.9	31	2,939	-9.6	-19.7	26	16.2	31	3,144	10.0	-10.9	06	2.6	31	3,157	6.7	-8.2	26	7.9	24	2,840	-16.8	-27.2	33	7.1
650	31	3,639	-4.0	-19.7	27	18.7	31	3,509	-12.1	-20.8	26	18.8	31	3,756	7.2	-14.0	05	2.4	31	3,762	3.5	-10.0	26	9.4	24	3,393	-19.9	-30.1	32	7.3
600	31	4,267	-7.1	-23.0	27	20.6	31	4,117	-15.3	-24.2	26	21.2	31	4,410	3.8	-16.7	04	2.2	31	4,407	-.4	-13.7	26	10.9	24	3,983	-23.3	-32.9	32	8.1
550	31	4,940	-11.0	-26.4	27	24.1	31	4,770	-19.2	-28.6	26	23.1	31	5,112	-.3	-20.5	36	1.8	31	5,098	-4.5	-18.1	26	12.6	24	4,615	-27.4	-37.0	32	8.5
500	31	5,665	-16.3	-30.9	27	26.2	31	5,473	-23.6	-33.8	26	26.0	31	5,868	-4.9	-24.5	31	1.8	31	5,841	-9.1	-22.6	26	14.7	24	5,295	-32.0	-41.0	32	9.5
450	31	6,450	-21.3	-36.0	27	30.3	31	6,236	-28.5	-38.1	26	28.8	31	6,688	-9.7	-27.9	31	3.2	31	6,649	-14.1	-26.6	26	17.1	24	6,032	-36.9	-43.0	31	11.2
400	31	7,308	-27.5	-40.4	27	34.4	31	7,070	-34.0	-41.3	26	31.8	31	7,587	-15.8	-33.0	31	6.2	31	7,532	-20.5	-34.0	26	18.8	24	6,837	-42.4		31	12.6
350	31	8,258	-34.6	-45.2	26	38.0	31	7,996	-40.2	-43.3	26	34.2	30	8,583	-22.7	-38.8	30	9.0	31	8,509	-27.9	-40.8	26	21.1	24	7,732	-47.7		32	13.6
300	31	9,314	-43.1		27	38.9	30	9,017	-47.0		26	36.3	30	9,692	-30.9	-46.0	29	11.6	31	9,593	-36.7	-47.1	26	22.8	24	8,735	-52.8		33	15.4
250	31	10,522	-50.3		27	42.8	30	10,210	-52.6		26	37.8	30	10,959	-40.8	-53.5	29	14.3	31	10,829	-46.9		26	24.7	24	9,903	-55.2		31	16.3
200	31	11,959	-55.5		27	42.2	30	11,645	-53.7		26	35.6	30	12,439	-52.6		28	16.2	30	12,269	-57.9		26	28.2	24	11,333	-53.2		29	15.3
175	31	12,807	-57.2		27	40.0	29	12,497	-53.1		26	33.6	30	13,289	-59.2		28	15.6	30	13,103	-61.9		26	27.3	24	12,195	-52.3		29	15.8
150	31	13,776	-60.1		27	35.6	28	13,485	-54.1		26	32.3	30	14,239	-66.3		29	13.7	30	14,047	-66.6		26	26.1	24	13,194	-51.7		[illegible]	14.9
125	31	14,904	-63.9		27	32.7	27	14,649	-55.9		26	29.1	30	15,323	-74.2		29	11.5	30	15,139	-70.6		26	24.6	24	14,377	-51.9		27	15.4
100	29	16,262	-67.3		27	25.6	27	16,061	-57.5		26	23.7	29	16,596	-81.4		29	6.0	29	16,451	-74.7		26	19.9	24	15,823	-52.4		27	16.4
80	27	17,603	-67.8		27	16.6	26	17,466	-59.3		26	20.3	28	17,843	-82.3		08	2.2	28	17,742	-75.3		26	13.0	24	17,267	-52.4		26	18.4
70	27	18,408	-66.8		26	13.3	26	18,300	-60.1		26	18.4	24	18,598	-77.8		10	4.0	27	18,520	-72.2		25	9.7	24	18,130	-52.5		27	19.6
60	25	19,345	-65.3		27	8.1	26	19,260	-60.6		26	13.9	24	19,494	-71.8		10	4.6	26	19,436	-68.3		25	6.2	23	19,126	-53.2		26	19.4
50	25	20,457	-64.8		26	6.9	25	20,390	-60.9		26	12.4	23	20,588	-66.5		09	5.2	25	20,534	-65.6		26	3.6	23	20,297	-54.1		26	22.6
40	23	21,826	-62.5		26	7.3	25	21,782	-59.7		26	8.9	22	21,956	-61.7		07	2.8	24	21,901	-62.5		26	3.6	22	21,726	-54.7		27	22.7
30	19	23,632	-60.3		28	6.7	25	23,581	-59.6		26	6.7	22	23,761	-55.9		34	1.6	23	23,695	-57.8		28	8.3	20	23,590	-54.6		27	23.6
25	18	24,769	-58.6		29	5.3	25	24,725	-58.6		27	8.0	20	24,927	-53.3		30	3.7	23	24,853	-54.7		28	9.6	20	24,756	-55.0		27	24.8
20	17	26,180	-56.4		30	5.0	23	26,129	-57.4		27	8.5	20	26,369	-51.9		27	5.4	22	26,299	-50.7		27	13.9	16	26,217	-55.5		27	22.7
15	8	27,987	-52.5				21	27,961	-55.3		26	12.1	20	28,243	-49.5		26	7.6	18	28,193	-47.0		27	17.7	8	28,170	-55.2			
10							15	30,587	-51.3		26	18.2	18	30,933	-41.8		26	14.4	6	30,911	-41.3									
7													[illegible]	33,368	-34.8															

RAWINSONDE DATA

Average monthly values

DECEMBER 1977

◆ KOROR, CAROLINE IS.
1007 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	30	28.0	24.5	05	2.5
1000	31	96	27.0	23.9	05	3.0
950	31	549	23.5	21.8	06	5.2
900	31	1,021	20.4	18.2	06	5.6
850	31	1,514	17.5	14.0	06	4.8
800	31	2,031	15.2	10.8	07	4.0
750	31	2,577	13.2	5.2	07	3.7
700	31	3,156	10.6	-1.2	07	4.4
650	31	3,770	7.3	-4.5	08	[illegible]
600	31	4,425	3.4	-8.0	08	5.5
550	31	5,126	-.5	-12.3	09	7.0
500	31	5,882	-5.1	-16.8	09	7.8
450	31	6,703	-9.8	-22.1	10	8.9
400	31	7,603	-15.3	-29.2	09	8.7
350	31	8,602	-21.8	-35.8	09	7.3
300	31	9,714	-30.4	-44.5	08	7.0
250	31	10,987	[illegible]	-51.6	09	6.9
200	30	12,463	-53.2		10	8.4
175	30	13,310	-60.2		10	9.5
150	30	14,253	-68.1		10	10.4
125	30	15,327	-76.2		10	12.4
100	30	16,591	-82.6		10	9.3
80	30	17,828	-83.5		08	7.9
70	29	18,580	-77.8		09	10.5
60	28	19,476	-71.2		09	14.8
50	28	20,575	-63.8		09	10.5
40	27	21,964	-57.6		26	1.2
30	27	23,800	-53.8		27	14.6
25	27	24,980	[illegible]		27	20.2
20	27	26,442	-48.5		27	22.0
15	26	28,346	-45.5		27	25.5
10	21	31,073	-41.0		27	25.4

KOTZEBUE, AK
1018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	5	-16.7	-19.1	10	3.8
1000	29	140	-15.0	-15.9	10	3.9
950	30	527	-12.3	-14.9	14	1.5
900	30	940	-13.1	-16.3	25	1.0
850	30	1,375	-13.6	-18.2	27	1.6
800	30	1,835	-14.9	-21.5	29	2.0
750	30	2,322	-17.0	-25.0	31	2.4
700	30	2,836	-20.0	-28.9	28	3.4
650	30	3,384	-22.5	-32.4	29	4.6
600	30	3,967	-25.8	-35.8	29	6.3
550	30	4,593	-29.9	-39.0	29	7.9
500	30	5,265	-34.7	-42.3	28	8.6
450	30	5,994	-39.5	-44.0	28	[illegible]
400	30	6,790	-44.9		27	11.9
350	30	7,674	-50.6		26	12.9
300	30	8,664	-56.1		27	14.7
250	30	9,814	-58.7		27	16.4
200	30	11,223	-55.9		26	14.6
175	30	12,074	-55.5		27	14.4
150	30	13,057	-55.4		26	15.6
125	30	14,221	-55.2		26	16.8
100	29	15,639	-56.1		26	19.3
80	29	17,055	-57.2		26	[illegible]
70	28	17,916	-57.7		26	23.5
60	28	18,888	-58.3		26	25.4
50	28	20,033	-59.2		26	27.6
40	24	21,458	-59.6		27	[illegible]
30	18	23,332	-58.3		27	26.1
25	15	24,507	-57.7		27	[illegible]
20	10	25,942	-56.2			
15	7	27,913	-53.2			
10	5	30,615	-53.6			

LAKE CHARLES, LA
1018 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	8.9	6.3	04	1.1
1000	31	149	10.4	4.3	07	1.1
950	31	577	10.6	1.2	22	2.0
900	31	1,027	10.3	-2.2	25	4.8
850	31	1,502	8.7	-4.8	27	[illegible]
800	31	2,002	7.0	-8.0	27	10.8
750	31	2,530	4.5	-11.1	27	13.3
700	31	3,089	1.7	-14.9	27	14.3
650	31	3,683	-1.3	-16.9	27	16.5
600	31	4,316	-5.2	-20.5	27	18.3
550	31	4,995	-9.0	-24.2	27	20.6
500	31	5,726	-13.7	-29.1	27	24.2
450	31	6,519	-19.1	-32.9	27	26.7
400	31	7,385	-25.4	-39.9	27	29.9
350	31	8,342	-32.7	-45.7	27	31.8
300	31	9,406	-41.0	-48.6	27	34.1
250	31	10,623	-49.5		27	35.7
200	31	12,059	-56.6		26	38.5
175	31	12,903	-58.5		27	36.7
150	31	13,865	-61.8		26	31.0
125	31	14,983	-65.8		26	[illegible]
100	31	16,327	-69.0		26	21.9
80	30	17,659	-70.1		26	14.6
70	30	18,455	-68.9		26	11.6
60	27	19,386	-66.6		26	9.0
50	27	20,496	-64.4		26	8.0
40	23	21,871	-62.5		26	6.7
30	22	23,660	-59.9		27	[illegible]
25	21	24,805	-58.0		28	7.5
20	21	26,219	-55.5		27	10.7
15	19	28,065	-52.1		27	15.2
10	10	30,699	-45.5			

LANDER, WY
824 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,697	-5.3	-12.1	25	1.3
1000						
950						
900						
850						
800	31	1,930	-1.9	-12.1	28	1.9
750	31	2,442	-3.5	-14.2	29	5.2
700	31	2,985	-6.7	-16.9	29	9.9
650	31	3,560	-9.9	-20.6	29	14.5
600	31	4,173	-13.5	-24.3	30	18.3
550	31	4,830	-17.8	-28.8	30	20.0
500	31	5,536	-22.8	-34.0	30	22.2
450	31	6,300	-28.1	-37.8	30	25.0
400	31	7,136	-34.1	-41.8	30	27.8
350	31	8,060	-40.9	-44.2	30	32.0
300	31	9,089	-48.6		29	34.0
250	31	10,271	-54.4		29	39.5
200	31	11,693	-55.5		29	38.7
175	31	12,545	-55.3		29	36.7
150	30	13,533	-54.5		29	35.7
125	29	14,704	-55.5		29	28.1
100	28	16,113	-58.7		28	19.3
80	28	17,508	-60.2		29	14.1
70	28	18,341	-60.4		29	10.7
60	27	19,298	-61.2		29	7.9
50	27	20,432	-60.3		32	6.2
40	24	21,816	-60.6		33	[illegible]
30	22	23,620	-59.8		35	4.0
25	19	24,743	-59.2		32	[illegible]
20	13	26,164	-58.3		33	4.0
15	[illegible]	27,932	-60.1			
10						

● LIHUE, KAUAI, HI
1012 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	36	21.6	18.0	04	1.5
1000	31	143	22.0	17.2	05	2.2
950	31	587	18.5	15.2	07	3.6
900	31	1,049	14.9	12.7	07	2.9
850	31	1,531	12.0	8.1	08	2.1
800	31	2,038	11.5	-1.6	09	1.3
750	31	2,577	10.3	-6.7	18	.1
700	31	3,148	7.6	-10.5	27	1.7
650	31	3,755	4.7	-13.6	27	3.1
600	31	4,403	.7	-17.2	28	4.9
550	31	5,096	-3.5	-21.7	28	6.4
500	31	5,842	-8.4	-25.9	28	8.4
450	31	6,652	-13.6	-30.3	28	11.4
400	31	7,537	-19.5	-35.6	28	14.4
350	31	8,519	-26.0	-40.9	28	19.1
300	31	9,615	-34.0	-47.2	29	24.0
250	31	10,870	-42.3	-54.0	29	28.2
200	31	12,344	-52.6		28	27.8
175	31	13,196	-58.3		28	27.7
150	31	14,152	-64.5		28	23.8
125	30	15,248	-71.8		28	19.7
100	28	16,546	-76.9		28	12.9
80	26	17,816	-77.6		28	5.0
70	25	18,588	-74.7		31	.8
60	24	19,490	-71.2		07	1.2
50	24	20,581	-67.1		07	2.2
40	24	21,942	-62.9		08	2.8
30	24	23,735	-57.8		02	1.9
25	24	24,893	-55.1		34	1.8
20	24	26,326	-53.1		31	1.5
15	24	28,193	-50.0		26	3.4
10	20	30,888	-42.9		24	9.4

LITTLE ROCK, AR
997 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	79	2.1	-2.4	24	.7
1000	12	217	-3.3	-10.6	34	.9
950	31	562	2.9	-5.3	26	5.3
900	31	1,000	3.4	-9.1	27	8.1
850	31	1,463	2.5	-9.8	28	9.7
800	31	1,952	.8	-11.2	28	11.5
750	31	2,469	-1.2	-13.4	28	13.0
700	31	3,016	-3.8	-17.9	28	15.4
650	31	3,598	[illegible]	-22.2	28	17.8
600	31	4,218	-10.1	-26.0	28	20.1
550	31	4,884	-14.3	-28.9	27	23.2
500	31	5,600	-19.1	[illegible]	27	26.2
450	31	6,376	-24.6	-36.9	27	29.2
400	31	7,222	-30.6	-41.4	27	32.1
350	31	8,160	-37.5	-46.4	27	35.0
300	30	9,203	-44.4		27	36.3
250	30	10,405	-50.9		27	40.2
200	30	11,843	-54.6		27	41.1
175	30	12,698	-54.9		27	36.9
150	30	13,677	-58.1		27	[illegible]
125	30	14,817	-61.4		27	28.7
100	29	16,195	[illegible]		27	22.4
80	29	17,552	-65.5		27	[illegible]
70	29	18,365	-65.1		27	12.2
60	29	19,307	-64.6		27	9.9
50	29	20,423	-63.9		27	[illegible]
40	27	21,796	-62.4		28	6.3
30	25	23,584	-60.0		29	3.9
25	25	24,725	-58.8		29	5.1
20	24	26,134	-57.1		28	6.7
15	21	27,968	-53.6		27	10.3
10	10	30,641	-46.0			

LONGVIEW, TX
1003 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	124	[illegible]	.5	16	.7
1000	20	189	3.5	-4.0	05	1.5
950	31	572	7.1	-1.9	23	3.7
900	31	1,018	8.0	-7.1	25	[illegible]
850	31	1,489	6.9	-8.3	27	9.1
800	31	1,985	4.4	-9.1	27	11.6
750	31	2,508	2.0	-12.5	28	13.8
700	31	3,061	-.7	-15.1	28	16.2
650	31	3,651	-3.6	-19.0	27	18.2
600	31	4,279	-7.0	-22.7	27	20.8
550	31	4,953	-11.3	-27.2	27	22.7
500	31	5,677	-16.0	-31.2	27	26.1
450	31	6,462	-21.4	-35.1	27	28.9
400	30	7,317	-28.0	-39.1	27	32.0
350	29	8,278	-34.3	-45.7	28	36.3
300	29	9,337	-41.9	-48.6	28	40.7
250	29	10,548	-50.5		28	41.8
200	29	11,982	-56.3		27	42.8
175	29	12,829	-57.4		27	35.2
150	29	13,797	-60.4		27	32.6
125	28	14,930	-64.1		27	27.3
100	27	16,281	[illegible]		27	22.7
80	27	17,619	-68.7		26	15.5
70	27	18,422	-66.9		26	10.9
60	25	19,356	-66.0		26	[illegible]
50	24	20,470	[illegible]		26	6.2
40	23	21,840	[illegible]		27	4.0
30	20	23,628	-59.7		28	4.9
25	19	24,769	[illegible]		28	5.0
20	19	26,179	-56.3		28	[illegible]
15	15	28,024	[illegible]		27	12.4
10	6	30,678	-46.7			

MCGRATH, AK
1006 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	103	-23.1	-22.4	12	[illegible]
1000	20	194	-18.9	-20.7	09	.8
950	31	531	-15.0	-17.3	14	1.0
900	31	942	-13.1	-17.5	17	1.4
850	31	1,378	-12.8	-19.6	17	.6
800	31	1,840	-13.6	-21.5	32	.6
750	31	2,329	-15.5	[illegible]	30	[illegible]
700	31	2,847	-18.2	-26.4	31	3.3
650	31	3,398	-21.0	-29.2	31	5.1
600	31	3,985	-24.6	-32.0	31	6.7
550	31	4,614	-28.5	-35.8	31	7.9
500	31	5,291	-32.9	-40.2	30	9.8
450	31	6,025	-37.5	-42.1	29	10.0
400	31	6,829	-42.7	-42.3	30	11.3
350	31	7,721	-48.7		29	11.4
300	31	8,718	-54.3		30	13.4
250	30	9,873	-57.2		29	14.2
200	30	11,293	-54.7		28	14.0
175	30	12,150	-53.9		28	13.9
150	30	13,143	-53.3		27	14.3
125	29	14,318	-53.6		27	15.7
100	28	15,747	-53.8		27	17.5
80	28	17,177	-54.5		27	18.9
70	27	18,023	-55.2		27	20.9
60	27	19,005	-56.0		27	22.5
50	27	20,161	-57.3		27	25.3
40	25	21,604	-57.4		27	25.9
30	25	23,419	-58.4		27	28.4
25	24	24,590	-58.4		27	28.4
20	19	26,040	-57.5		27	29.0
15	16	27,896	-58.1		27	33.7
10	5	30,440	-63.0			

◆ MAJURO, MARSHALL IS.
1009 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	3	28.7	24.0	05	2.6
1000	31	85	27.5	23.4	05	3.6
950	31	539	23.7	21.6	05	[illegible]
900	31	1,011	20.8	17.8	06	4.9
850	31	1,505	18.0	13.9	06	4.3
800	31	2,024	16.5	7.3	06	3.0
750	31	2,572	14.1	3.4	07	[illegible]
700	31	3,151	11.0	-.5	08	2.5
650	31	3,767	7.5	-3.6	08	2.9
600	31	4,422	[illegible]	-9.2	09	4.5
550	31	5,125	.3	-13.5	10	4.0
500	31	5,883	-4.1	-16.8	09	3.8
450	31	6,708	-8.7	-20.4	09	4.6
400	31	7,612	-14.0	-26.5	09	4.3
350	31	8,616	-20.6	-33.0	09	[illegible]
300	31	9,735	-28.6	-40.7	10	4.1
250	31	11,013	-39.3	-49.5	12	[illegible]
200	31	12,500	-51.9		12	7.5
175	31	13,353	-58.7		12	[illegible]
150	31	14,303	-66.7		10	8.8
125	31	15,384	-74.9		09	10.5
100	31	16,651	-82.9		09	12.6
80	31	17,894	-81.1		08	10.7
70	31	18,652	-77.3		09	11.5
60	31	19,554	-69.9		09	13.7
50	30	20,656	-63.3		10	9.4
40	29	22,051	-56.5		25	[illegible]
30	29	23,890	-53.4		27	13.0
25	28	25,071	-50.9		27	[illegible]
20	24	26,535	-48.3		27	21.5
15	24	28,450	-44.3		27	27.7
10	10	31,168	-39.5			

● MEDFORD, OR
969 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	401	4.2	[illegible]	18	.3
1000						
950	31	564	4.9	2.5	21	.6
900	31	1,005	4.5	.3	19	3.4
850	31	1,470	3.1	-3.4	22	6.4
800	31	1,960	.9	-7.1	24	9.4
750	31	2,477	-1.8	-9.5	25	11.9
700	31	3,023	-4.4	-13.1	25	13.5
650	31	3,604	-7.6	[illegible]	26	15.1
600	31	4,222	-11.2	-21.6	26	16.8
550	31	4,885	-15.5	-26.5	26	17.9
500	31	5,598	-20.4	-31.4	26	18.7
450	31	6,370	-25.8	-35.2	27	19.3
400	31	7,213	-32.0	-40.5	27	22.5
350	31	8,146	-38.7	-43.4	27	24.0
300	31	9,184	-46.5		27	25.1
250	31	10,375	-53.1		27	30.0
200	31	11,802	-55.9		27	32.3
175	31	12,653	-55.6		28	30.0
150	30	13,638	-56.9		27	27.6
125	30	14,788	-58.4		27	24.3
100	28	16,182	-61.2		28	18.7
80	28	17,567	-61.1		28	13.9
70	26	18,395	-61.4		29	9.5
60	25	19,348	-62.4		30	8.4
50	24	20,478	-61.7		32	6.9
40	22	21,864	-61.3		33	5.1
30	18	23,670	-59.6		01	5.1
25	17	24,818	-59.0		03	5.5
20	15	26,227	-58.8		03	5.6
15	8	28,027	-58.8			
10						

MERIDA, MEXICO
1014 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	11	19.0	18.2	07	.8
1000	31	134	21.7	19.3	08	3.1
950	31	579	20.1	16.3	10	5.2
900	31	1,045	17.9	11.9	11	3.8
850	31	1,533	15.6	7.3	14	2.6
800	31	2,046	13.2	4.4	16	1.4
750	31	2,588	11.4	-1.2	21	1.1
700	31	3,161	[illegible]	-6.1	26	1.6
650	31	3,770	4.9	-7.1	26	2.7
600	31	4,418	[illegible]	-12.4	26	4.5
550	31	5,113	-3.0	-17.6	26	5.5
500	31	5,862	-7.5	-23.7	26	6.9
450	31	6,674	-13.0	-28.3	25	[illegible]
400	31	7,561	-19.3	-33.7	25	10.1
350	31	8,542	-26.6	-40.0	25	12.6
300	31	9,633	-35.3	-47.4	26	14.7
250	31	10,875	-46.0		26	15.4
200	29	12,321	-56.8		26	17.4
175	29	13,159	-61.2		26	17.6
150	29	14,104	-66.5		26	[illegible]
125	29	15,194	-71.5		26	15.7
100	29	16,500	-75.1		26	13.9
80	28	17,781	-77.2		26	8.9
70	27	18,553	-73.7		25	5.3
60	26	19,464	-68.8		23	3.2
50	26	20,565	-66.3		21	2.7
40	24	21,932	-62.4		23	2.0
30	24	23,731	-56.8		28	[illegible]
25	24	24,894	-53.8		28	8.7
20	24	26,341	-50.1		27	13.8
15	19	28,244	[illegible]		27	18.7
10	17	30,962	-40.7			
7						

MIDLAND, TX
916 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	874	3.5	-7.2	22	2.0
1000						
950						
900	31	1,015	6.9	-5.7	25	2.4
850	31	1,488	9.8	-7.4	27	[illegible]
800	31	1,990	8.2	-9.0	28	11.0
750	31	2,520	5.7	-11.6	29	[illegible]
700	31	3,081	2.4	-14.9	28	13.5
650	31	3,677	[illegible]	-18.5	28	15.5
600	31	4,311	-4.7	-21.9	28	17.4
550	31	4,990	-8.9	-24.9	28	20.2
500	31	[illegible]	-13.8	-28.8	28	23.2
450	31	6,513	-19.3	-33.0	28	25.3
400	31	7,378	-25.9	-37.8	29	28.4
350	31	8,333	-33.3	-43.6	29	31.3
300	31	9,394	-41.7	-46.9	28	33.4
250	31	10,607	-50.1		28	[illegible]
200	31	12,041	-56.4		28	38.2
175	31	12,885	-58.2		29	34.0
150	31	13,850	-61.4		28	30.0
125	31	14,971	-65.1		28	26.8
100	31	16,319	-68.7		28	21.0
80	31	17,651	-69.6		28	14.0
70	31	18,449	-68.6		28	[illegible]
60	31	19,377	-66.4		28	7.3
50	30	20,491	-64.2		27	[illegible]
40	29	21,866	-62.0		27	4.5
30	28	23,658	-59.6		29	4.1
25	28	24,802	-58.4		28	6.1
20	28	26,211	-56.2		29	5.8
15	27	28,050	-53.6		28	11.3
10	23	[illegible]	-45.3		27	24.1
7	11	33,156	-36.0			

MONTERREY, MEXICO
965 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	423	10.6	4.1	30	2.7
1000						
950	30	576	13.5	4.7	31	2.3
900	30	1,033	15.0	1.6	29	[illegible]
850	30	1,516	14.0	-1.3	20	1.3
800	30	2,026	12.9	-5.9	26	3.0
750	30	2,566	10.2	-8.2	28	[illegible]
700	30	3,136	6.5	-11.5	28	7.7
650	30	3,739	2.5	[illegible]	28	[illegible]
600	30	4,381	-1.6	-16.7	28	10.7
550	30	5,069	-5.8	-22.5	27	11.9
500	30	5,809	-10.9	-27.1	27	13.7
450	30	6,609	-16.6	-31.3	27	14.4
400	30	7,483	-23.2	-37.2	27	16.5
350	30	8,450	-30.6	-42.9	27	18.4
300	30	9,523	-39.1	-49.2	27	21.2
250	30	10,750	-47.8		27	24.0
200	29	12,194	-56.9		27	27.2
175	27	13,027	-60.6		27	27.0
150	27	13,976	-64.9		27	24.4
125	27	15,077	-69.3		27	21.5
100	27	16,394	-73.4		27	16.4
80	26	17,692	-74.2		27	11.0
70	26	18,474	-72.1		27	[illegible]
60	24	19,390	-68.5		26	7.0
50	24	20,494	-65.1		26	5.2
40	22	21,864	-62.5		26	5.6
30	21	23,632	-59.2		26	[illegible]
25	21	24,801	-56.7		27	8.9
20	21	26,226	-53.5		27	12.0
15	19	28,098	-49.9		26	15.5
10	11	30,810	-41.9			
7						

MONETT, MO
963 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	438	-1.1	-5.2	20	1.4
1000						
950	29	556	-.3	-6.9	25	2.5
900	31	982	1.1	-8.3	26	[illegible]
850	31	1,442	.9	-10.3	27	11.4
800	31	1,928	-.8	-12.4	28	12.4
750	31	2,441	-3.1	-16.3	29	13.3
700	31	2,985	-5.3	-19.5	29	15.4
650	31	3,564	-8.1	-23.1	29	17.4
600	31	4,181	-11.9	-26.6	28	19.4
550	31	4,843	-15.7	-30.2	28	22.0
500	31	5,554	-20.6	-33.0	28	23.4
450	31	6,326	-26.0	-36.5	28	[illegible]
400	31	7,168	-32.3	-41.4	28	29.4
350	31	8,099	-39.1	-46.0	28	31.4
300	31	9,137	-46.2		28	34.6
250	31	10,333	-51.7		28	39.3
200	31	11,773	-53.6		28	38.9
175	31	12,631	-54.0		27	34.7
150	30	13,615	-56.1		28	31.7
125	29	14,762	-58.8		27	27.1
100	29	16,156	-61.3		28	20.9
80	27	17,530	-63.1		27	14.2
70	25	18,356	-62.9		28	10.6
60	25	19,307	-62.8		27	8.2
50	25	20,432	-62.0		27	7.6
40	23	21,817	-61.8		29	4.1
30	22	23,612	-59.8		32	2.4
25	19	24,754	[illegible]		32	3.2
20	18	26,153	-58.3		31	3.1
15	12	27,961	-56.2		28	[illegible]
10	5	30,534	-50.2			
7						

NASHVILLE, TN
996 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C *	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	180	1.7	-2.0	22	.9
1000	9	227	-4.6	-11.1		
950	31	560	1.0	-4.4	23	5.7
900	31	994	-.2	-7.4	25	9.2
850	31	1,451	-.8	-10.1	26	12.0
800	31	1,934	-1.7	-10.8	27	13.7
750	31	2,447	-3.3	-14.1	27	15.7
700	31	2,990	-5.6	-18.5	27	17.5
650	31	3,568	-8.5	-22.7	27	19.1
600	31	4,185	-11.9	-26.7	27	21.6
550	31	4,846	-16.0	-29.4	26	24.3
500	31	5,558	-20.3	-33.1	26	27.8
450	31	6,331	-25.3	-37.2	26	31.3
400	31	7,176	-31.3	-42.0	26	32.8
350	31	8,111	-38.1	-46.4	26	36.2
300	31	9,153	-45.5		27	38.3
250	31	10,351	-51.8		27	40.9
200	31	11,788	-53.7		26	40.5
175	31	12,646	-54.1		26	37.6
150	31	13,629	-56.9		26	35.1
125	31	14,776	-59.9		26	31.1
100	31	16,163	-61.9		27	24.1
80	30	17,536	-63.6		27	18.5
70	29	18,353	-63.7		27	14.9
60	28	19,305	-63.2		27	10.8
50	28	20,428	-63.0		26	8.9
40	28	21,805	-62.2		28	6.1
30	28	23,593	-59.9		29	4.3
25	27	24,737	-58.7		28	4.7
20	26	26,147	-57.0		28	7.0
15	25	27,983	-54.7		28	9.0
10	18	30,592	-47.7		27	20.6
7	5	32,996	-40.8			

RAWINSONDE DATA

Average monthly values

DECEMBER 1977

* NOME, AK
1016 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	-13.2	-16.6	09	2.3
1000	30	126	-10.6	-12.7	08	1.9
950	31	517	-10.8	-13.2	14	2.6
900	31	932	-11.7	-15.4	18	2.7
850	31	1,370	-11.8	-17.7	20	1.8
800	31	1,833	-13.1	-20.5	23	1.4
750	31	2,323	-14.9	-23.2	27	2.0
700	31	2,843	-17.6	-26.0	28	2.6
650	31	3,394	-20.8	-28.5	27	3.3
600	31	3,981	-24.[illegible]	-32.0	27	3.[illegible]
550	31	4,609	-28.9	-36.6	28	5.0
500	31	5,284	-33.8	-40.2	28	6.[illegible]
450	31	6,015	-38.7	-43.0	28	7.5
400	31	6,815	-44.0		28	[illegible]
350	31	7,703	-49.7		27	10.1
300	30	8,702	-55.1		26	11.3
250	29	9,855	-59.4		27	10.9
200	29	11,260	-56.6		26	10.5
175	27	12,110	-55.7		26	11.7
150	27	13,093	-55.[illegible]		26	13.0
125	25	14,252	-55.1		26	13.8
100	22	15,680	-55.5		26	16.7
80	21	17,095	-56.3		26	18.[illegible]
70	20	17,930	-57.4		26	19.9
60	20	18,903	-57.[illegible]		26	22.3
50	19	20,048	-58.6		26	25.1
40	18	21,442	-59.5		26	28.4
30	17	23,227	-60.[illegible]		26	34.6
25	14	24,399	-61.0			
20	10	25,810	-63.5			
15	8	27,655	-62.[illegible]			
10						

NORTH PLATTE, NE
913 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	847	-7.8	-10.9	33	1.9
1000						
950						
900	29	969	-4.7	-9.4	32	3.7
850	30	1,416	-1.6	-10.8	31	8.7
800	30	1,900	-1.5	-11.7	31	12.4
750	30	2,412	-4.1	-13.5	31	14.5
700	30	2,953	-7.3	-15.6	31	15.2
650	30	3,527	-10.6	-20.[illegible]	30	17.2
600	30	4,139	-14.2	-23.2	30	18.[illegible]
550	30	4,793	-18.6	-27.3	30	19.7
500	30	5,498	-23.1	-32.4	30	21.[illegible]
450	30	6,261	-28.6	-37.4	30	22.[illegible]
400	30	7,094	-35.1	-44.1	29	22.[illegible]
350	29	8,011	-42.0	-45.0	29	26.4
300	29	9,035	-49.3		29	27.2
250	28	10,221	-53.6		29	30.[illegible]
200	28	11,654	-54.0		28	31.9
175	28	12,514	-52.7		28	30.5
150	28	13,507	-54.3		28	28.2
125	28	14,671	-56.[illegible]		28	24.3
100	28	16,082	-58.4		29	16.[illegible]
80	28	17,479	-60.4		29	10.7
70	28	18,310	-61.2		29	[illegible].3
60	28	19,267	-61.3		29	6.4
50	27	20,395	-61.4		31	5.3
40	25	21,783	-60.7		32	3.[illegible]
30	25	23,576	-60.[illegible]		34	4.0
25	22	24,710	-59.2		31	[illegible].0
20	20	26,116	-58.7		31	6.1
15	16	27,926	-57.8		31	6.9
10	8	30,461	-54.5			

OAKLAND, CA
1017 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	6	10.1	[illegible].4	13	.7
1000	31	148	11.1	8.0	15	.9
950	31	576	10.8	4.[illegible]	20	1.6
900	31	1,027	9.5	-1.[illegible]	23	2.6
850	31	1,500	7.9	-5.6	24	4.3
800	31	1,998	5.5	-7.8	25	5.5
750	31	2,523	2.9	-12.[illegible]	26	7.[illegible]
700	31	3,078	-.1	-15.[illegible]	26	9.4
650	31	3,668	-3.6	-17.[illegible]	27	10.6
600	31	4,296	-7.5	-21.8	27	12.7
550	31	4,968	-11.8	-24.8	27	15.0
500	31	5,690	-16.7	-29.4	27	18.[illegible]
450	31	6,473	-22.4	-33.2	27	20.[illegible]
400	31	7,327	-28.9	-38.3	27	22.[illegible]
350	31	8,272	-35.9	-43.4	27	25.7
300	29	9,319	-43.4	-51.3	27	31.5
250	29	10,522	-52.2		27	34.7
200	29	11,949	-56.6		27	37.2
175	29	12,795	-57.5		27	35.[illegible]
150	29	13,766	-59.3		27	30.[illegible]
125	29	14,901	-61.8		28	26.4
100	29	16,273	-64.5		27	18.0
80	29	17,630	-66.2		28	13.0
70	29	18,440	-66.0		28	9.7
60	28	19,382	-65.0		30	7.6
50	27	20,503	-64.0		33	4.8
40	26	21,877	-62.0		02	3.[illegible]
30	24	23,670	-59.7		05	5.5
25	21	24,812	-59.4		06	[illegible].6
20	18	26,214	-57.9		04	5.8
15	16	28,037	-57.3		04	7.[illegible]
10	8	30,652	-54.8			

OMAHA, NE
965 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	403	-6.[illegible]	-8.9	31	2.2
1000						
950	29	532	-6.3	-10.0	30	3.2
900	31	945	-4.[illegible]	-11.2	30	6.7
850	31	1,397	-3.3	-11.8	30	8.[illegible]
800	31	1,876	-4.3	-14.6	30	10.0
750	31	2,383	-6.[illegible]	-17.3	29	11.6
700	31	2,919	-8.7	-19.5	29	13.7
650	31	3,490	-12.0	-20.6	29	15.[illegible]
600	31	4,099	-15.7	-24.4	29	15.8
550	31	4,750	-19.8	-29.2	29	18.[illegible]
500	31	5,450	-24.6	-33.4	29	21.[illegible]
450	31	6,209	-29.[illegible]	-39.8	29	22.[illegible]
400	31	7,039	-36.0	-44.5	29	25.2
350	31	7,957	-42.4	-48.4	29	28.2
300	31	8,980	-48.[illegible]		29	30.[illegible]
250	31	10,166	-52.[illegible]		28	31.[illegible]
200	31	11,604	-52.8		28	30.[illegible]
175	31	12,469	-51.[illegible]		28	27.7
150	31	13,465	-53.0		28	26.[illegible]
125	31	14,637	-54.8		28	22.0
100	31	16,056	-57.2		28	18.[illegible]
80	30	17,466	-59.2		28	14.[illegible]
70	30	18,301	-60.2		29	11.4
60	28	19,255	-60.9		30	10.[illegible]
50	25	20,379	-60.7		29	8.6
40	20	21,772	-59.6		29	8.4
30	18	23,573	-59.9		30	6.0
25	17	24,705	-59.6		30	5.[illegible]
20	13	26,140	-58.8		31	4.[illegible]
15	11	27,960	-58.4		30	4.6
10						

PAGO PAGO, AMERICAN SAMOA
+ 1007 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	5	29.4	24.0	10	4.7
1000	31	71	27.3	23.3	10	5.1
950	31	524	23.4	21.4	10	5.7
900	31	995	20.1	18.2	09	5.3
850	31	1,488	17.6	14.1	08	4.3
800	31	2,007	16.3	8.9	07	3.0
750	31	2,555	14.4	2.5	07	1.8
700	31	3,135	11.3	-2.2	05	1.0
650	31	3,751	8.1	-5.[illegible]	32	.7
600	31	4,407	4.6	-8.8	30	1.1
550	31	5,111	.6	-12.[illegible]	30	1.3
500	31	5,870	-3.8	-18.3	26	1.8
450	31	6,695	-8.6	-23.[illegible]	26	2.4
400	31	7,599	-14.3	-28.3	26	3.8
350	30	8,601	-21.1	-34.[illegible]	27	6.0
300	30	9,718	-29.2	-42.[illegible]	28	7.8
250	30	10,994	-39.4	-51.5	29	9.1
200	30	12,483	-51.5		29	9.9
175	30	13,336	-58.7		29	8.9
150	30	14,286	-66.5		29	7.1
125	30	15,368	-74.8		28	4.5
100	30	16,637	-82.6		07	1.0
80	30	17,874	-82.3		09	7.0
70	30	18,633	-75.3		09	9.6
60	30	19,540	-69.6		09	13.8
50	30	20,644	-64.3		09	18.4
40	30	22,022	-60.2		09	18.1
30	30	23,841	-54.4		08	11.5
25	29	25,016	-51.8		09	9.6
20	29	26,475	-48.5		09	7.8
15	29	28,385	-45.0		08	6.2
10	23	31,140	-40.3		08	6.0

* PEORIA, IL
990 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	200	-6.8	-9.8	23	1.6
1000						
950	31	520	-5.7	-9.4	26	5.6
900	31	946	-4.4	-11.4	27	8.4
850	31	1,396	-4.[illegible]	-13.5	28	9.5
800	31	1,872	-5.[illegible]	-15.2	28	11.0
750	31	2,376	-7.[illegible]	-17.9	28	12.[illegible]
700	31	2,910	-10.[illegible]	-20.2	28	14.[illegible]
650	31	3,478	-13.2	-22.4	28	16.3
600	31	4,084	-16.6	-25.1	28	17.9
550	31	4,733	-20.4	-29.2	28	19.7
500	31	5,433	-25.2	-33.6	28	21.0
450	31	6,190	-30.[illegible]	-38.3	28	23.6
400	31	7,018	-36.2	-43.7	28	25.1
350	31	7,936	-42.0	-51.6	28	28.4
300	31	8,962	-48.1		27	31.6
250	31	10,153	-52.1		27	34.2
200	31	11,594	-52.2		27	32.[illegible]
175	31	12,459	-52.1		27	32.4
150	31	13,456	-53.1		28	29.7
125	31	14,627	-55.2		27	25.1
100	31	16,044	-57.4		28	20.4
80	31	17,447	-59.6		28	16.7
70	30	18,278	-59.[illegible]		28	14.4
60	30	19,240	-60.4		28	11.3
50	29	20,374	-60.7		28	8.8
40	29	21,763	-60.4		28	6.8
30	27	23,553	-59.1		29	5.7
25	27	24,696	-59.4		28	[illegible]
20	24	26,103	-58.7		29	5.4
15	14	27,938	-56.5		28	6.1
10						

* PITTSBURGH, PA
972 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	359	-2.7	-6.5	22	2.7
1000						
950	31	537	-2.8	-6.3	23	4.9
900	31	965	-3.6	-7.4	24	9.0
850	31	1,416	-5.[illegible]	-10.[illegible]	26	11.3
800	31	1,891	-7.[illegible]	-12.2	26	12.[illegible]
750	31	2,393	-8.[illegible]	-16.7	26	14.7
700	31	2,927	-10.1	-18.6	26	16.6
650	31	3,496	-12.8	-22.0	26	18.1
600	31	4,103	-16.[illegible]	-25.[illegible]	26	20.1
550	31	4,753	-19.[illegible]	-29.4	26	23.1
500	31	5,454	-24.[illegible]	-33.[illegible]	26	25.5
450	31	6,213	-29.[illegible]	-38.[illegible]	26	28.9
400	31	7,044	-35.3	-43.[illegible]	26	31.8
350	31	7,965	-41.4	-44.6	26	36.2
300	30	8,990	-47.6		26	38.[illegible]
250	30	10,181	-52.2		26	40.[illegible]
200	30	11,620	-52.[illegible]		26	37.4
175	30	12,480	-53.3		26	36.8
150	30	13,472	-54.2		26	33.1
125	29	14,643	-56.1		27	29.1
100	29	16,053	-58.0		27	24.0
80	27	17,451	-58.7		27	18.[illegible]
70	26	18,290	-59.8		26	14.9
60	24	19,251	-60.8		27	11.7
50	23	20,390	-61.0		27	[illegible].0
40	20	21,775	-60.3		28	[illegible].8
30	17	23,570	-61.0		29	[illegible].7
25	17	24,708	-59.4		29	5.7
20	15	26,101	-59.1		30	5.0
15	[illegible]	27,937	-60.2			
10						

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	39	28.8	24.0	06	3.1
1000	31	81	27.7	23.2	06	3.[illegible]
950	31	535	23.7	21.1	06	[illegible].0
900	31	1,006	20.5	17.0	07	[illegible].3
850	31	1,499	17.8	11.[illegible]	07	5.8
800	31	2,018	16.8	3.5	07	[illegible].4
750	31	2,566	14.6	-1.[illegible]	07	3.7
700	31	3,145	11.3	-5.7	08	4.1
650	31	3,760	7.6	-8.1	08	[illegible].7
600	31	4,415	3.9	-11.6	08	[illegible].1
550	31	5,117	.1	-16.[illegible]	07	7.[illegible]
500	31	5,874	-4.4	-20.[illegible]	08	[illegible].1
450	31	6,697	-9.1	-25.6	07	10.[illegible]
400	31	7,599	-14.5	-31.4	08	9.8
350	31	8,601	-21.3	-36.6	08	7.3
300	31	9,716	-29.8	-43.5	09	5.[illegible]
250	31	10,989	-40.0	-51.7	12	[illegible].7
200	31	12,471	-52.8		12	8.0
175	31	13,319	-59.7		11	8.2
150	31	14,265	-67.9		11	[illegible].2
125	31	15,339	-76.2		09	11.8
100	31	16,599	-83.7		09	11.[illegible]
80	31	17,839	-82.1		08	9.2
70	31	18,594	-78.0		08	10.0
60	31	19,488	-72.4		09	14.6
50	31	20,589	-62.7		10	8.9
40	30	21,988	-56.7		26	[illegible].7
30	29	23,823	-53.4		27	12.3
25	29	25,003	-50.9		27	18.0
20	27	26,454	-48.5		27	23.8
15	25	28,368	-45.3		27	28.[illegible]
10	17	31,112	-40.2		27	29.[illegible]

PORTLAND, ME
1013 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	20	-5.8	-9.0	32	1.[illegible]
1000	28	139	-4.8	-8.8	32	2.[illegible]
950	31	525	-5.1	-9.4	32	[illegible].6
900	31	949	-7.1	-11.0	28	2.[illegible]
850	31	1,394	-8.6	-14.5	27	4.[illegible]
800	31	1,863	-9.4	-17.0	27	7.[illegible]
750	31	2,361	-10.7	-19.9	27	10.[illegible]
700	31	2,891	-12.1	-21.8	26	14.0
650	31	3,455	-14.7	-24.1	26	16.4
600	31	4,058	-17.[illegible]	-27.5	26	17.5
550	31	4,704	-21.1	-31.1	26	19.[illegible]
500	31	5,403	-25.2	-34.2	26	22.[illegible]
450	30	6,156	-30.6	-36.6	26	23.8
400	30	6,983	-36.5	-40.9	26	26.7
350	30	7,899	-42.5	-43.1	26	29.[illegible]
300	30	8,925	-48.1		26	32.[illegible]
250	30	10,114	-52.4		26	31.9
200	30	11,552	-53.4		26	29.1
175	29	12,406	-53.1		26	27.7
150	29	13,399	-53.7		26	27.5
125	28	14,559	-54.0		26	23.4
100	28	15,986	-56.[illegible]		26	19.7
80	28	17,400	-57.4		26	16.[illegible]
70	28	18,243	-58.1		26	14.8
60	28	19,215	-58.1		26	12.2
50	27	20,356	-58.[illegible]		26	10.8
40	27	21,753	-59.5		25	[illegible]
30	27	23,557	-58.[illegible]		26	7.7
25	27	24,701	-59.1		26	8.7
20	25	26,100	-57.8		26	11.[illegible]
15	22	27,920	-56.3		26	13.0
10	8	30,637	-51.1			

* QUILLAYUTE, WA
1005 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	58	3.4	[illegible]	15	.6
1000	22	132	3.5	1.4	12	.6
950	31	513	4.5	.9	20	3.8
900	31	952	2.4	-2.2	21	5.9
850	31	1,412	-.3	-5.5	22	6.6
800	31	1,895	-2.9	-9.9	23	7.3
750	31	2,404	-5.8	-13.7	24	8.3
700	31	2,942	-8.4	-19.[illegible]	25	9.7
650	31	3,514	-11.7	-22.1	26	11.8
600	31	4,123	-15.2	-25.2	26	13.8
550	31	4,775	-19.3	-30.[illegible]	26	15.5
500	31	5,478	-24.0	-34.7	26	17.3
450	31	6,239	-29.1	-38.[illegible]	26	19.3
400	31	7,071	-35.1	-41.9	27	20.6
350	31	7,991	-42.0	-43.1	26	17.1
300	31	9,015	-49.2		26	17.7
250	31	10,193	-55.1		26	18.5
200	31	11,617	-54.8		27	19.6
175	31	12,472	-54.4		27	18.5
150	31	13,461	-54.1		27	18.9
125	31	14,629	-54.7		27	17.9
100	31	16,055	-55.0		27	16.5
80	31	17,476	-56.7		28	11.9
70	31	18,321	-58.0		29	11.8
60	30	19,294	-58.4		29	11.4
50	30	20,440	-58.7		30	9.5
40	29	21,843	-58.9		31	8.3
30	28	23,653	-58.1		32	9.2
25	24	24,780	-59.3		33	9.4
20	17	26,223	-58.8		34	9.8
15	11	28,051	-58.9			
10						

RAPID CITY, SD
901 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	966	-6.7	-11.7	34	4.2
1000						
950						
900	18	1,021	-11.2	-16.5	35	[illegible].7
850	31	1,420	-4.4	-12.0	32	8.0
800	31	1,897	-5.4	-13.8	31	11.5
750	31	2,401	-7.3	-15.5	31	13.3
700	31	2,937	-10.1	-17.6	31	15.2
650	31	3,504	-13.3	-20.1	30	16.9
600	31	4,110	-17.1	-24.4	30	18.2
550	31	4,757	-21.4	-28.4	30	19.4
500	31	5,453	-26.1	-32.5	30	22.[illegible]
450	31	6,208	-31.0	-37.4	30	24.4
400	31	7,034	-36.7	-43.6	30	27.4
350	31	7,949	-43.3	-45.5	30	30.6
300	31	8,968	-50.2		30	31.9
250	31	10,144	-54.6		30	31.2
200	31	11,573	-53.2		29	29.7
175	31	12,435	-52.4		29	27.7
150	31	13,431	-52.8		29	26.3
125	31	14,605	-54.3		29	23.5
100	31	16,029	-56.5		29	21.6
80	30	17,439	-58.6		29	16.3
70	30	18,276	-59.8		29	14.6
60	29	19,243	-60.0		30	13.[illegible]
50	27	20,379	-59.5		30	10.5
40	23	21,767	-60.3		31	8.0
30	20	23,573	-59.5		32	8.[illegible]
25	19	24,728	-59.3		33	5.7
20	17	26,143	-59.2		34	6.3
15	13	27,987	-59.5		36	5.[illegible]
10						

ST CLOUD, MN
975 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	316	-12.4	-16.4	32	1.5
1000						
950	30	512	-12.1	-14.0	33	[illegible].9
900	30	928	-9.7	-13.5	32	4.[illegible]
850	30	1,370	-9.[illegible]	-14.7	31	6.[illegible]
800	30	1,839	-10.[illegible]	-16.4	30	7.[illegible]
750	30	2,334	-12.2	-18.9	30	9.0
700	30	2,859	-14.6	-20.[illegible]	29	10.[illegible]
650	30	3,418	-17.4	-24.3	29	12.[illegible]
600	30	4,014	-20.1	-27.8	29	14.0
550	30	4,655	-23.7	-31.6	29	16.2
500	30	5,345	-28.1	-36.2	29	17.7
450	30	6,094	-33.4	-40.[illegible]	29	19.2
400	30	6,910	-39.4	-43.[illegible]	29	20.1
350	29	7,808	-45.5		28	21.6
300	29	8,820	-50.8		28	23.9
250	28	9,993	-53.4		29	25.4
200	27	11,436	-51.7		28	24.[illegible]
175	27	12,304	-51.0		28	24.5
150	27	13,308	-50.[illegible]		28	23.4
125	27	14,491	-52.[illegible]		28	21.4
100	27	15,928	-54.2		28	18.[illegible]
80	24	17,359	-56.3		29	16.9
70	24	18,205	-57.1		29	14.[illegible]
60	23	19,179	-58.2		29	13.[illegible]
50	23	20,326	-58.[illegible]		29	10.[illegible]
40	21	21,713	-59.0		29	10.0
30	19	23,513	-59.0		30	8.6
25	17	24,666	-59.1		29	[illegible].9
20	12	26,066	-59.0		28	10.6
15						
10						

* ST PAUL ISLAND, AK
1011 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	30	10	-.3	-3.5	08	1.4
1000	23	149	-1.8	-4.9	04	3.5
950	30	505	-3.5	-5.9	15	1.3
900	30	930	-5.3	-11.3	19	1.4
850	30	1,378	-6.6	-14.8	21	1.[illegible]
800	30	1,850	-8.4	-20.0	22	1.3
750	30	2,349	-11.1	-23.8	20	1.0
700	29	2,878	-13.8	-27.6	23	.9
650	29	3,438	-17.1	-30.1	24	1.[illegible]
600	29	4,034	-20.9	-32.6	22	1.5
550	29	4,671	-25.2	-37.4	24	[illegible]
500	29	5,357	-30.1	-42.[illegible]	23	3.[illegible]
450	29	6,099	-35.1	-46.8	23	3.[illegible]
400	29	6,910	-41.0	-47.5	24	5.[illegible]
350	29	7,809	-47.1		24	7.4
300	29	8,813	-53.1		23	7.8
250	28	9,984	-56.4		23	[illegible]
200	28	11,401	-54.9		23	10.[illegible]
175	28	12,259	-53.4		23	11.2
150	26	13,246	-51.8		23	12.1
125	26	14,428	-51.9		24	13.0
100	25	15,879	-51.6		24	14.7
80	25	17,329	-51.4		24	14.8
70	25	18,197	-51.5		24	15.2
60	25	19,198	-51.5		25	17.7
50	25	20,382	-51.9		25	18.8
40	24	21,819	-53.0		25	19.0
30	24	23,671	-53.1		26	20.2
25	23	24,851	-52.5		26	21.0
20	21	26,307	-52.0		26	21.2
15	20	28,158	-52.5		27	23.7
10	17	30,798	-53.0		28	20.1

SALEM, IL
994 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	174	-3.0	-6.9	26	1.5
1000	7	222	-10.[illegible]	-16.3		
950	31	532	-3.[illegible]	-8.3	25	5.[illegible]
900	31	961	-2.6	-10.0	27	[illegible]
850	31	1,414	-3.1	-11.6	28	10.3
800	31	1,893	-4.0	-14.0	28	12.[illegible]
750	31	2,401	-5.7	-17.4	28	13.6
700	31	2,940	-8.3	-18.3	28	15.3
650	31	3,512	-11.1	-21.3	28	17.6
600	31	4,123	-14.[illegible]	-26.0	28	20.0
550	31	4,777	-18.[illegible]	-29.1	28	22.0
500	31	5,482	-23.[illegible]	-33.8	27	24.4
450	31	6,247	-27.9	-38.5	27	26.7
400	31	7,083	-33.[illegible]	-44.0	27	27.3
350	31	8,009	-40.[illegible]	-48.9	27	30.3
300	31	9,042	-46.[illegible]		27	33.7
250	31	10,236	-51.8		27	36.[illegible]
200	31	11,677	-52.7		27	34.1
175	31	12,540	-52.7		27	33.5
150	30	13,532	-54.4		27	30.0
125	30	14,695	-56.7		27	24.[illegible]
100	30	16,101	-59.5		27	20.8
80	30	17,491	-61.2		27	15.[illegible]
70	30	18,319	-61.[illegible]		27	12.[illegible]
60	29	19,279	-61.7		27	9.[illegible]
50	27	20,410	-61.7		28	7.[illegible]
40	27	21,795	-60.[illegible]		28	[illegible].2
30	24	23,593	-59.5		31	3.2
25	19	24,760	-58.[illegible]		33	2.4
20	18	26,163	-58.3		32	2.1
15	9	27,999	-56.[illegible]			
10						

SALEM, OR
1007 MB

Standard pressure surface mb.	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C +	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	61	5.6	[illegible].4	18	2.5
1000	23	150	5.3	3.4	20	2.8
950	31	537	5.3	2.7	20	6.5
900	31	979	4.6	.[illegible]	22	8.8
850	31	1,443	2.1	-2.4	23	11.3
800	31	1,931	-.4	-5.[illegible]	24	12.7
750	31	2,445	-3.3	-9.[illegible]	24	13.1
700	31	2,988	-6.3	-14.4	25	13.1
650	31	3,564	-9.2	-18.2	26	14.3
600	31	4,179	-13.0	-23.3	27	15.6
550	31	4,837	-17.1	-29.0	27	18.1
500	31	5,546	-21.8	-31.9	27	20.1
450	31	6,313	-27.3	-35.[illegible]	27	20.7
400	31	7,150	-33.5	-40.[illegible]	27	22.4
350	31	8,078	-40.2	-44.[illegible]	28	23.4
300	31	9,110	-47.8		28	24.2
250	31	10,294	-54.9		27	25.0
200	31	11,717	-55.0		[illegible]	23.6
175	31	12,573	-54.5		28	23.2
150	31	13,558	-55.1		28	20.8
125	31	14,718	-57.0		28	19.4
100	31	16,125	-58.7		28	15.7
80	31	17,526	-58.6		28	10.7
70	30	18,365	-59.0		29	9.3
60	29	19,328	-60.5		30	8.1
50	28	20,465	-59.8		32	7.5
40	27	21,862	-59.6		34	6.3
30	26	23,675	-58.2		35	6.8
25	23	24,812	-58.8		35	7.0
20	19	26,226	-58.8		36	8.4
15	13	28,057	-59.1		36	12.7
10	7	30,603	-57.5			

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UT 872 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	1,288	1.8	-3.3	17	1.1
1000						
950						
900						
850	31	1,493	2.2	-6.4	20	2.4
800	31	1,982	.2	-8.8	22	4.3
750	31	2,496	-3.2	-10.7	26	6.0
700	31	3,039	-6.7	-13.9	28	9.4
650	31	3,614	-10.1	-16.2	28	11.7
600	31	4,227	-13.5	-20.7	29	14.6
550	31	4,885	-17.3	-24.9	29	18.3
500	31	5,593	-21.7	-29.9	29	22.4
450	31	6,362	-26.6	-34.4	29	26.0
400	31	7,203	-32.4	-39.1	29	29.[illegible]
350	31	8,134	-39.1	-43.9	29	31.5
300	31	9,171	-46.8		29	37.0
250	31	10,360	-54.1		29	43.5
200	31	11,783	-55.7		29	40.5
175	31	12,633	-56.1		29	35.3
150	31	13,611	-57.8		28	32.5
125	31	14,755	-59.9		29	28.5
100	31	16,141	-62.3		29	22.9
80	30	17,517	-62.8		29	16.1
70	29	18,337	-62.9		29	10.4
60	29	19,286	-63.0		30	7.8
50	28	20,412	-62.4		31	5.8
40	28	21,793	-61.2		33	5.4
30	25	23,583	-60.6		34	4.6
25	24	24,725	-59.2		35	5.0
20	23	26,127	-59.6		36	5.3
15	18	27,936	-59.6		36	5.9
10	8	30,507	-56.8			
7						

SAN DIEGO, CA 1002 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	124	12.9	9.3	09	.4
1000	27	142	13.[illegible]	8.2	07	.4
950	31	573	14.2	3.7	15	1.2
900	31	1,029	13.3	.1	19	1.8
850	31	1,509	11.9	-3.1	26	2.9
800	31	2,014	9.6	-7.1	26	4.1
750	31	2,547	6.8	-10.9	26	[illegible].6
700	31	3,110	3.3	-13.5	27	7.2
650	31	3,708	.3	-17.7	28	8.5
600	31	4,345	-3.6	-20.5	28	9.7
550	31	5,026	-8.1	-24.8	28	12.4
500	31	5,760	-13.2	-27.4	28	15.5
450	31	6,553	-19.0	-32.0	28	17.3
400	31	7,419	-25.4	-37.5	28	19.8
350	30	8,375	-32.4	-43.2	28	23.2
300	30	9,441	-40.7	-48.4	28	25.7
250	30	10,659	-49.6		28	31.[illegible]
200	30	12,095	-57.1		28	34.9
175	29	12,931	-58.8		28	32.2
150	29	13,894	-61.6		28	28.9
125	28	15,010	-65.6		28	24.2
100	28	16,353	-69.5		28	19.[illegible]
80	26	17,678	-69.5		29	13.3
70	26	18,476	-69.1		30	9.3
60	23	19,398	-67.7		31	5.6
50	22	20,503	-65.2		35	3.6
40	20	21,875	-62.7		03	3.2
30	18	23,665	-58.6		05	3.0
25	18	24,813	-58.1		03	3.6
20	17	26,217	-57.1		34	2.6
15	14	28,064	-53.9		30	6.0
10	10	30,718	-48.0			
7						

SAN JUAN, P. R. 1016 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	6	21.7	20.3	12	2.0
1000	31	143	23.1	19.8	11	4.0
950	31	590	20.5	16.8	11	7.2
900	31	1,056	17.6	12.4	11	7.4
850	31	1,543	14.5	9.[illegible]	11	6.9
800	31	2,054	12.0	4.7	11	6.3
750	31	2,592	9.8	-1.9	11	5.5
700	31	3,165	8.5	-9.3	11	4.9
650	31	3,774	5.8	-12.9	12	4.6
600	31	4,424	2.1	-16.6	12	3.8
550	31	5,122	-1.7	-21.2	11	2.9
500	31	5,873	-6.4	-26.1	13	1.6
450	31	6,688	-11.9	-30.7	17	.2
400	31	7,578	-18.7	-36.2	30	2.3
350	31	8,562	-26.2	-41.6	28	3.8
300	31	9,655	-34.5	-48.3	28	6.4
250	31	10,904	-44.1		28	10.9
200	31	12,367	-54.9		28	16.0
175	31	13,209	-60.6		28	15.7
150	30	14,156	-66.5		28	16.3
125	30	15,248	-71.2		29	13.4
100	30	16,549	-77.2		31	6.9
80	30	17,824	-78.7		36	2.3
70	30	18,589	-76.6		07	2.2
60	29	19,488	-70.6		08	3.1
50	29	20,584	-65.8		09	3.1
40	28	21,953	-61.1		08	2.2
30	27	23,768	-55.3		33	1.9
25	25	24,944	-52.2		31	5.1
20	24	26,396	-49.0		29	9.8
15	24	28,298	-45.9		29	13.5
10	18	31,003	-40.6		29	19.2
7	5	33,425	-35.8			

• SAULT STE MARIE, MI 984 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	221	-7.2	-10.1	09	1.0
1000						
950	31	493	-8.0	-10.6	10	.9
900	31	912	-9.4	-12.0	25	.9
850	31	1,353	-10.9	-14.9	27	3.0
800	31	1,818	-12.8	-17.6	27	4.9
750	31	2,308	-14.6	-20.6	28	6.8
700	31	2,829	-16.8	-23.4	27	8.1
650	31	3,383	-19.0	-26.3	27	9.6
600	31	3,976	-22.0	-28.8	27	11.9
550	31	4,612	-25.6	-32.6	27	13.0
500	31	5,296	-30.2	-36.8	27	14.4
450	31	6,039	-35.3	-38.5	27	16.3
400	31	6,849	-41.0	-42.7	27	18.[illegible]
350	31	7,749	-46.7		27	20.7
300	31	8,757	-51.5		26	23.7
250	30	9,920	-52.9		27	25.1
200	30	11,365	-51.0		27	23.5
175	30	12,235	-50.7		27	23.5
150	30	13,240	-50.8		27	22.0
125	29	14,436	-52.0		27	20.7
100	29	15,875	-54.3		27	18.1
80	29	17,301	-55.5		27	16.3
70	29	18,151	-56.2		27	14.5
60	28	19,137	-57.1		27	11.9
50	28	20,287	-58.4		27	11.0
40	26	21,686	-59.2		28	10.9
30	24	23,492	-59.9		28	[illegible].7
25	19	24,624	-60.0		28	10.0
20	17	26,030	-59.2		29	10.7
15	15	27,839	-58.7		27	10.5
10	5	30,484	-56.6			
7						

SPOKANE, WA 92[illegible] MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	720	-3.4	-5.2	21	1.4
1000						
950						
900	31	974	-2.1	-4.5	22	3.4
850	31	1,428	-3.0	-7.7	24	7.1
800	31	1,907	-4.8	-10.4	25	8.5
750	31	2,413	-6.9	-13.8	26	10.0
700	31	2,949	-9.7	-16.9	27	12.0
650	31	3,518	-12.7	-21.1	27	14.1
600	31	4,125	-15.9	-25.3	28	16.2
550	31	4,776	-19.7	-28.8	28	18.8
500	31	[illegible],478	-24.2	-33.6	28	22.0
450	31	6,238	-29.5	-38.1	28	24.1
400	31	7,068	-35.8	-43.6	28	26.8
350	31	7,986	-42.7	-42.8	28	29.6
300	31	9,007	-50.0		29	34.3
250	31	10,183	-55.4		28	37.5
200	31	11,604	-54.8		29	32.2
175	31	12,460	-54.0		29	29.0
150	31	13,452	-53.6		29	26.8
125	31	14,621	-54.8		29	24.7
100	31	16,045	-55.9		29	20.6
80	30	17,469	-56.9		29	16.9
70	30	18,313	-58.1		29	15.2
60	28	19,277	-58.3		29	12.9
50	28	20,421	-59.4		30	11.1
40	27	21,822	-59.3		31	8.6
30	21	23,652	-58.6		33	8.7
25	18	24,823	-57.8		35	7.5
20	16	26,225	-59.3		35	10.0
15	8	28,054	-59.6			
10						
7						

TAMPA BAY, FL 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	13	12.0	10.0	06	1.1
1000	31	156	14.5	10.1	07	1.4
950	31	591	14.6	5.2	22	1.7
900	31	1,047	12.9	2.8	24	4.1
850	31	1,526	11.1	-1.6	25	6.2
800	31	2,031	9.[illegible]	-3.1	26	8.2
750	31	2,563	6.9	-8.5	26	9.7
700	31	3,127	4.2	-10.7	26	11.[illegible]
650	31	3,727	1.0	-13.9	26	14.0
600	31	4,366	-2.9	-15.9	26	16.3
550	31	5,050	-6.9	-19.6	26	19.[illegible]
500	31	5,787	-11.7	-23.2	26	22.1
450	31	6,587	-16.5	-26.9	26	25.7
400	31	7,463	-22.4	-34.0	26	29.4
350	30	8,433	-29.4	-39.2	25	31.1
300	30	9,513	-37.8	-47.0	26	33.3
250	30	10,743	-47.7		26	35.9
200	30	12,183	-57.7		26	37.0
175	30	13,019	-61.0		26	34.3
150	30	13,968	-65.[illegible]		26	31.6
125	30	15,071	-68.2		26	26.1
100	30	16,397	-72.1		26	20.5
80	29	17,706	-72.4		26	14.1
70	28	18,494	-69.7		25	11.0
60	28	19,417	-67.6		26	8.2
50	28	20,524	-64.5		27	7.9
40	27	21,892	-63.0		27	7.0
30	27	23,677	-59.2		28	9.[illegible]
25	26	24,823	-56.8		28	10.0
20	24	26,256	-53.1		28	11.5
15	24	28,126	-48.5		27	16.8
10	22	30,851	-39.5		27	24.2
7	[illegible]	33,285	-33.2			

TOPEKA, KS 983 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	268	-3.9	-7.6	27	.7
1000						
950	31	534	-1.6	-7.7	29	5.4
900	31	965	-1.1	-10.0	29	[illegible].7
850	31	1,422	-.6	-12.3	28	9.3
800	31	1,906	-1.7	-14.5	28	10.8
750	31	2,417	-3.9	-16.7	29	12.2
700	31	2,959	-6.6	-18.1	29	14.4
650	31	3,534	-10.0	-20.9	29	16.2
600	31	4,147	-13.7	-24.9	29	18.4
550	31	4,804	-17.6	-28.9	28	19.0
500	31	5,511	-21.8	-32.8	29	21.2
450	31	6,279	-27.1	-38.2	28	23.5
400	31	7,117	-33.4	-42.9	28	26.3
350	31	8,044	-40.3	-46.6	28	28.9
300	31	9,076	-47.3		28	31.0
250	31	10,266	-52.9		28	31.3
200	31	11,701	-53.0		27	31.9
175	31	12,563	-53.1		27	30.1
150	31	13,553	-54.5		28	28.7
125	31	14,717	-56.3		27	21.7
100	30	16,123	-59.7		27	16.2
80	30	17,512	-61.4		27	10.7
70	30	18,339	-61.8		27	7.1
60	29	19,289	-61.[illegible]		28	6.3
50	27	20,425	-61.5		29	4.2
40	26	21,806	-61.4		31	3.1
30	26	23,597	-59.[illegible]		02	2.2
25	24	24,736	-59.3		35	2.7
20	23	26,132	-58.5		33	3.6
15	17	27,960	-56.4		30	5.0
10						
7						

+ TRUK, CAROLINE IS. 1011 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	2	28.6	24.4	05	4.5
1000	31	97	27.8	23.2	06	5.2
950	31	551	23.9	21.3	07	7.0
900	31	1,023	21.0	16.9	07	7.1
850	31	1,517	18.3	13.[illegible]	07	6.7
800	31	2,036	16.7	5.1	08	5.6
750	31	2,584	14.8	-1.0	08	4.8
700	31	3,165	11.7	-4.4	08	5.0
650	31	3,781	8.4	-9.7	09	5.8
600	31	4,438	4.8	-13.5	08	7.3
550	31	5,142	.7	-17.5	08	8.0
500	31	5,900	-3.9	-22.1	08	9.3
450	31	6,724	-8.8	-26.2	08	10.5
400	31	7,627	-14.3	-31.2	08	10.9
350	31	8,630	-21.0	-36.5	08	8.9
300	31	9,746	-29.4	-44.8	09	5.4
250	31	11,021	-39.7	-52.7	12	3.9
200	31	12,507	-52.1		12	5.3
175	31	13,357	-59.1		10	6.6
150	31	14,306	-67.1		10	8.3
125	31	15,384	-75.3		09	11.4
100	31	16,649	-83.3		09	11.9
80	31	17,890	-82.5		09	10.0
70	31	18,642	-78.2		09	10.5
60	31	19,536	-72.5		09	14.1
50	31	20,631	-63.6		09	11.8
40	31	22,022	-57.5		26	.8
30	30	23,861	-53.5		27	9.4
25	29	25,038	-51.3		27	15.5
20	28	26,496	-48.4		27	22.2
15	27	28,400	-45.8		27	26.6
10	20	31,123	-41.7		27	28.0
7	7	33,576	-38.5			

• TUCSON, AZ 926 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	789	9.0	-1.6	14	2.6
1000						
950						
900	31	1,031	13.5	-1.2	16	2.3
850	31	1,511	11.8	-3.6	22	1.6
800	31	2,015	8.9	-5.9	26	2.6
750	31	2,547	6.2	-9.3	28	4.3
700	31	3,109	3.1	-13.1	28	6.5
650	31	3,706	-.2	-16.4	29	[illegible].7
600	31	4,342	-4.1	-19.4	29	11.5
550	31	5,023	-8.1	-22.9	29	14.5
500	31	5,757	-13.0	-26.3	29	17.2
450	31	6,552	-18.2	-30.4	29	20.4
400	31	7,421	-24.7	-36.0	28	23.4
350	31	8,381	-32.0	-42.0	28	25.7
300	31	9,447	-40.7	-45.6	28	28.7
250	31	10,664	-49.9		28	33.[illegible]
200	31	12,097	-57.1		29	36.7
175	31	12,939	-58.5		29	35.1
150	31	13,900	-61.9		29	32.1
125	31	15,018	-65.9		29	26.3
100	31	16,358	-69.5		29	21.[illegible]
80	28	17,684	-71.0		29	14.4
70	28	18,476	-70.3		29	11.[illegible]
60	26	19,398	-68.2		30	7.7
50	24	20,500	-65.0		32	3.9
40	21	21,877	-62.7		34	1.8
30	20	23,669	-59.3		35	1.7
25	19	24,809	-58.3		35	1.4
20	18	26,217	-57.2		32	2.7
15	15	28,054	-54.9		28	6.0
10	10	30,686	-47.5			
7						

• VANDENBERG AFB, CA 1005 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	100	12.8	7.5	06	1.3
1000	30	145	13.3	7.7	05	1.7
950	31	576	13.9	3.3	06	1.9
900	31	1,031	12.8	.7	01	1.0
850	31	1,510	10.3	-2.[illegible]	28	1.7
800	31	2,012	8.0	-6.2	28	3.7
750	31	2,542	5.1	-9.7	28	5.5
700	31	3,102	2.1	-14.4	28	7.2
650	30	3,696	-1.1	-17.0	28	8.6
600	30	4,329	-5.1	-20.4	28	10.7
550	30	5,007	-9.5	-24.1	27	13.3
500	30	5,736	-14.9	-29.1	27	15.8
450	30	6,525	-20.3	-33.4	27	18.3
400	30	7,387	-26.5	-38.4	27	21.9
350	30	[illegible],341	-33.4	-43.[illegible]	27	25.6
300	30	9,402	-41.5	-48.2	27	27.9
250	30	10,614	-50.8		27	29.6
200	30	12,046	-56.8		27	33.2
175	30	12,888	-58.5		28	30.7
150	29	13,858	-61.2		28	26.8
125	29	14,982	-64.3		28	24.1
100	28	16,337	-68.5		28	17.6
80	28	17,671	-69.3		29	12.9
70	26	18,469	-68.8		31	9.3
60	23	19,395	-68.1		31	7.7
50	22	20,497	-65.2		33	4.0
40	21	21,869	-62.6		36	2.5
30	20	23,650	-60.2		03	2.8
25	19	24,796	-59.2		04	4.1
20	19	26,200	-57.9		04	4.9
15	17	28,032	-55.5		32	2.9
10	13	30,645	-50.6		29	10.5
7	8	32,986	-46.5			

VICTORIA, TX 1013 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	33	10.3	6.8	35	1.0
1000	30	140	12.1	5.3	05	1.0
950	31	568	13.1	4.7	19	3.8
900	31	1,023	13.0	.9	22	5.1
850	31	1,503	11.6	-3.1	25	6.3
800	31	2,008	[illegible].5	-7.0	27	8.6
750	31	2,541	6.8	-10.6	28	11.0
700	31	3,104	3.[illegible]	-13.4	28	12.7
650	31	3,702	.3	-15.9	28	14.7
600	31	4,340	-3.1	-19.5	28	16.7
550	31	5,023	-7.2	-22.7	28	18.4
500	31	5,759	-12.1	-27.3	28	20.7
450	31	6,557	-17.5	-32.8	28	22.1
400	31	7,428	-24.3	-38.6	28	24.0
350	31	8,389	-32.[illegible]	-45.1	28	26.7
300	31	9,457	-39.8	-48.8	28	29.9
250	31	10,679	-48.6		28	32.9
200	31	12,119	-56.6		27	35.7
175	31	12,962	-59.5		27	34.9
150	31	13,919	-62.9		28	31.9
125	31	15,031	-67.0		27	27.6
100	29	16,366	-70.2		28	21.0
80	29	17,686	-71.7		27	15.7
70	29	18,476	-70.2		27	11.2
60	28	19,398	-67.4		27	9.4
50	27	20,505	-64.8		27	8.3
40	27	21,874	-62.5		27	7.8
30	27	23,661	-59.9		27	6.[illegible]
25	26	24,804	-57.7		27	10.1
20	26	26,223	-54.6		28	11.3
15	25	28,077	-52.0		27	15.0
10	19	30,747	-45.0		26	26.0
7						

• WAKE IS., PACIFIC AREA 1015 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	[illegible]	25.1	20.5	06	5.6
1000	31	130	23.8	18.9	06	6.3
950	31	578	20.0	17.3	07	6.[illegible]
900	31	1,042	16.8	14.7	07	[illegible].8
850	31	1,529	14.5	[illegible].8	08	4.[illegible]
800	31	2,041	13.6	2.9	07	2.7
750	31	2,584	12.8	-5.6	02	1.3
700	31	3,161	10.[illegible]	-10.3	34	[illegible]
650	31	3,775	7.4	-14.5	31	[illegible]
600	31	4,428	3.3	-18.2	30	2.3
550	31	5,127	-1.2	-21.8	30	3.4
500	31	5,880	-5.9	-25.5	29	4.9
450	30	6,696	-11.1	-29.8	29	7.1
400	30	7,590	-17.0	-35.0	29	9.2
350	30	8,583	-23.3	-40.3	29	11.7
300	28	9,690	-30.8	-46.7	28	12.9
250	27	10,959	-40.9	-54.0	26	13.2
200	27	12,437	-52.8		27	13.4
175	26	13,284	-59.6		26	13.6
150	26	14,232	-67.0		26	14.3
125	26	15,312	-74.8		26	13.6
100	26	16,585	-81.4		27	7.6
80	26	17,836	-81.5		25	.4
70	26	18,590	-78.9		10	2.9
60	25	19,482	-72.[illegible]		10	4.8
50	25	20,569	-67.1		10	[illegible].4
40	25	21,929	-62.9		09	4.1
30	24	23,721	-57.4		05	3.0
25	23	24,877	-55.2		03	4.7
20	22	26,309	-52.8		06	3.2
15	22	28,179	-49.3		25	2.6
10	19	30,873	-42.9		26	6.6
7	6	33,216	-41.3			

■ WALLOPS ISLAND, VA NASA 1017 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	4	2.4	-.7	33	2.0
1000	30	144	3.6	-2.2	30	3.8
950	31	554	2.9	-3.5	28	4.7
900	31	991	1.4	-4.1	26	6.4
850	31	1,450	-.3	-7.3	26	9.3
800	31	1,934	-1.9	-10.4	26	11.9
750	31	2,446	-3.7	-14.5	26	14.8
700	31	2,989	-5.8	-16.8	26	17.3
650	31	3,567	-8.6	-19.8	26	19.8
600	31	4,184	-11.7	-23.3	26	22.0
550	31	4,846	-15.9	-26.8	26	24.4
500	31	5,558	-20.3	-31.8	26	28.3
450	31	6,331	-25.2	-35.3	26	32.4
400	31	7,176	-31.0	-40.2	26	35.7
350	31	8,113	-37.8	-45.4	26	38.8
300	31	9,156	-45.4		26	43.6
250	31	10,354	-52.0		26	48.8
200	31	11,786	-54.6		26	46.4
175	31	12,640	-55.1		26	44.1
150	31	13,622	-56.3		26	38.5
125	31	14,773	-59.4		26	33.9
100	30	16,167	-61.7		26	27.6
80	30	17,550	-61.9		26	19.6
70	30	18,375	-62.7		26	16.3
60	30	19,326	-62.3		26	12.5
50	30	20,452	-61.7		26	10.3
40	30	21,835	-61.3		26	7.2
30	30	23,629	-59.9		27	5.2
25	27	24,768	-58.3		28	5.8
20	27	26,178	-56.6		27	6.2
15	24	28,029	-52.8		27	10.1
10	15	30,691	-47.3			
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WASHINGTON DULLES INT. AP 1006 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	85	-2.2	-5.4	29	1.0
1000	27	153	-2.1	-6.9	27	1.4
950	31	545	-1.1	-6.2	26	4.0
900	31	976	-1.8	-6.5	26	[illegible].3
850	31	1,430	-3.0	-7.6	27	[illegible].7
800	30	1,910	-4.2	-11.6	27	11.7
750	30	2,418	-5.5	-14.5	26	13.5
700	30	2,957	-7.9	-17.4	26	15.1
650	30	3,531	-10.4	-19.5	26	17.3
600	30	4,144	-13.9	-24.7	26	20.2
550	30	4,800	-17.7	-28.5	26	21.6
500	29	5,509	-22.4	-32.7	26	24.2
450	29	6,275	-27.5	-38.0	26	27.3
400	29	7,113	-33.3	-41.8	26	31.[illegible]
350	28	8,049	-39.2	-43.8	26	34.5
300	28	9,087	-46.2		25	38.[illegible]
250	28	10,280	-52.8		26	39.4
200	28	11,710	-55.1		26	37.7
175	28	12,563	-55.0		26	36.1
150	28	13,547	-55.8		26	33.2
125	27	14,703	-58.3		26	28.8
100	27	16,101	-60.6		26	23.4
80	24	17,482	-61.8		26	18.4
70	24	18,309	-62.0		26	16.7
60	23	19,257	-61.9		26	14.9
50	22	20,377	-62.0		27	10.3
40	21	21,757	-61.0		27	9.2
30	21	23,549	-59.3		27	7.1
25	21	24,693	-58.6		27	8.4
20	21	26,099	-57.2		27	9.0
15	18	27,937	-54.6		27	12.3
10	16	30,574	-48.8		26	17.2
7						

WAYCROSS, GA 1014 MB

Standard pressure surface mb	No. of observations	Dynamic height meters	Temperature °C	Dew Point °C	Resultant Wind Direction tens of deg	Resultant Wind Speed m.p.s.
SFC	31	44	7.1	3.6	28	.6
1000	31	156	9.0	3.4	28	1.4
950	31	582	8.5	2.0	26	4.9
900	31	1,029	8.0	-2.4	26	7.6
850	31	1,500	7.3	-4.9	26	10.4
800	31	1,998	6.0	-7.7	26	12.7
750	31	2,525	3.6	-9.7	26	14.4
700	31	3,082	.7	-12.6	26	16.0
650	31	3,673	-2.5	-16.6	26	17.3
600	31	4,305	-5.7	-20.7	26	19.4
550	31	4,982	-9.8	-24.7	26	22.4
500	31	5,711	-14.7	-27.6	26	25.1
450	31	6,501	-20.0	-32.1	26	27.1
400	31	7,363	-26.2	-37.1	26	31.2
350	30	8,322	-33.0	-42.1	26	33.7
300	30	9,386	-40.6	-48.[illegible]	26	38.4
250	30	10,606	-48.9		26	45.1
200	30	12,046	-55.8		26	46.2
175	30	12,890	-58.7		26	43.9
150	30	13,852	-61.8		26	38.5
125	30	14,973	-65.0		26	32.5
100	30	16,320	-68.5		26	25.8
80	27	17,648	-68.9		26	18.4
70	26	18,449	-68.4		26	15.9
60	25	19,380	-65.6		26	11.9
50	24	20,493	-64.1		26	11.5
40	21	21,865	-62.4		26	10.2
30	21	23,654	-58.6		27	9.5
25	20	24,804	-57.4		27	8.8
20	20	26,226	-53.4		27	10.6
15	18	28,083	-50.4		27	14.3
10	11	30,795	-44.3		27	27.9
7						

RAWINSONDE DATA

Average monthly values

WEST PALM BEACH, FL
1017 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	7	16.5	12.8	33	.5
1000	31	154	18.2	13.5	06	.7
950	31	593	15.9	10.6	13	1.4
900	31	1,051	13.7	5.7	21	2.6
850	31	1,532	12.0	.1	24	4.2
800	31	2,038	10.[illegible]	-3.1	26	6.2
750	31	2,573	8.0	-7.4	26	8.0
700	31	3,140	5.[illegible]	-10.3	26	10.4
650	31	3,742	2.1	-13.2	26	12.7
600	31	4,384	-1.7	-15.9	26	15.1
550	31	5,072	-5.6	-19.9	26	17.1
500	31	5,813	-10.2	-24.6	26	19.6
450	31	6,617	-15.4	-27.3	26	22.5
400	31	7,496	-21.6	-32.1	26	24.7
350	31	8,468	-28.9	-39.7	26	27.2
300	31	9,549	-37.6	-46.5	26	29.1
250	31	10,780	-47.6		26	31.[illegible]
200	31	12,220	-57.4		26	33.[illegible]
175	31	13,056	-61.2		26	31.7
150	31	14,004	-65.2		26	28.[illegible]
125	31	15,103	-69.4		26	27.[illegible]
100	31	16,424	-72.1		26	21.5
80	30	17,733	-73.0		26	13.[illegible]
70	30	18,522	-69.6		26	9.6
60	30	19,447	-67.1		26	7.4
50	30	20,557	-64.0		27	5.1
40	28	21,934	-61.9		27	6.5
30	27	23,730	-57.4		28	[illegible]
25	26	24,891	-55.0		28	9.[illegible]
20	25	26,327	-51.[illegible]		28	12.6
15	20	28,232	-45.9		28	17.9
10	11	30,992	-36.[illegible]			
7						

WINNEMUCCA, NV
869 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,312	1.3	-6.1	18	1.7
1000						
950						
900						
850	31	1,492	3.4	-4.2	21	3.1
800	31	1,983	1.7	-6.[illegible]	23	6.0
750	31	2,501	-1.1	-9.5	25	8.6
700	31	3,048	-4.3	-12.9	26	11.5
650	31	3,629	-7.3	-16.9	27	14.1
600	31	4,249	-11.0	-21.8	28	16.6
550	31	4,912	-15.1	-24.[illegible]	28	18.6
500	31	5,626	-19.7	-28.9	28	19.5
450	31	6,401	-24.8	-32.9	28	21.3
400	31	7,247	-31.4	-38.1	28	24.3
350	31	8,182	-38.3	-42.2	29	28.5
300	31	9,223	-45.5		28	32.0
250	31	10,417	-53.3		28	38.4
200	28	11,843	-56.3		28	40.4
175	28	12,693	-55.8		28	35.5
150	27	13,663	-58.0		28	33.[illegible]
125	27	14,808	-59.6		28	26.7
100	25	16,184	-61.9		28	20.8
80	24	17,567	-63.1		28	14.1
70	21	18,384	-63.8		29	11.3
60	20	19,334	-62.3		29	7.3
50	20	20,460	-62.0		31	5.6
40	18	21,857	-60.8		35	4.8
30	17	23,655	-59.8		02	4.3
25	15	24,802	-59.2		01	4.8
20	14	26,213	-58.1		01	4.[illegible]
15	10	27,995	-57.8		29	4.2
10						
7						

WINSLOW, AZ
853 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,487	-.3	-8.8	18	1.6
1000						
950						
900						
850	27	1,522	1.8	-8.2	17	1.6
800	31	2,010	5.5	-8.7	28	4.4
750	31	2,535	2.8	-10.3	28	7.2
700	31	3,090	.1	-13.9	29	10.6
650	31	3,681	-2.9	-17.1	29	12.7
600	31	4,311	-6.4	-20.2	30	15.1
550	31	4,986	-10.8	-24.7	29	16.6
500	31	5,711	-15.9	-28.1	29	19.3
450	31	6,497	-21.2	-32.[illegible]	29	22.1
400	30	7,358	-27.4	-38.[illegible]	29	25.7
350	30	8,307	-34.7	-43.1	29	28.7
300	30	9,362	-43.2	-47.[illegible]	29	33.5
250	30	10,567	-51.9		29	38.5
200	30	11,992	-57.2		29	40.1
175	30	12,833	-59.0		29	38.4
150	30	13,796	-61.5		29	32.8
125	29	14,923	-64.9		29	27.2
100	28	16,277	-68.3		29	20.9
80	24	17,613	-69.2		30	14.3
70	20	18,418	-68.0		30	10.5
60	19	19,348	-66.6		31	7.3
50	17	20,462	-63.2		32	4.2
40	15	21,840	-61.9		36	2.8
30	12	23,641	-60.2		03	3.0
25	12	24,781	-58.9		05	2.4
20	10	26,173	-58.0		35	1.0
15	6	28,008	-55.0			
10						
7						

YAKUTAT, AK
1009 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p.s
SFC	31	12	-7.9	-12.1	08	[illegible].3
1000	24	142	-2.4	-9.6	09	2.9
950	31	489	-3.2	-11.8	08	4.0
900	31	916	-5.3	-13.9	09	4.2
850	31	1,362	-7.9	-16.4	11	3.4
800	31	1,831	-10.6	-18.4	12	2.1
750	31	2,325	-13.4	-20.[illegible]	15	1.3
700	31	2,847	-16.6	-25.6	19	1.7
650	31	3,400	-19.9	-29.8	22	1.[illegible]
600	31	3,990	-23.6	-33.0	27	2.3
550	31	4,621	-27.4	-37.8	28	3.2
500	31	5,301	-32.1	-42.7	27	4.9
450	31	6,037	-37.4	-41.9	27	6.0
400	31	6,841	-42.7	-45.4	27	8.2
350	31	7,735	-47.6		27	[illegible]
300	31	8,742	-51.3		27	12.3
250	31	9,920	-53.7		28	13.2
200	31	11,354	-53.0		28	13.5
175	30	12,224	-52.1		28	14.3
150	30	13,222	-51.9		28	15.4
125	30	14,403	-52.3		28	15.[illegible]
100	30	15,845	-52.6		28	16.[illegible]
80	30	17,284	-53.5		28	16.[illegible]
70	30	18,142	-54.1		28	17.[illegible]
60	30	19,129	-55.3		28	18.1
50	30	20,289	-56.4		28	18.6
40	30	21,704	-57.1		28	19.6
30	27	23,528	-57.8		29	21.[illegible]
25	26	24,684	-58.1		29	22.6
20	22	26,118	-58.5		29	22.4
15	16	28,012	-58.2		30	22.4
10	8	30,612	-61.8			
7						

◆ YAP, CAROLINE IS.
1009 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg.	Resultant Wind Speed m p s.
SFC	31	14	27.9	23.4	08	3.4
1000	31	94	26.6	23.4	07	4.3
950	31	547	23.3	21.2	07	7.3
900	31	1,019	20.4	17.1	08	7.1
850	31	1,511	17.5	13.9	08	6.1
800	31	2,029	15.7	[illegible].3	08	5.2
750	31	2,576	13.3	4.5	09	5.5
700	31	3,154	10.6	-.8	09	5.2
650	31	3,769	7.9	-4.[illegible]	09	6.2
600	31	4,425	4.1	-8.4	09	7.3
550	31	5,128	.0	-13.[illegible]	09	7.8
500	31	5,885	-4.6	-18.3	09	8.6
450	31	6,707	-9.4	-23.[illegible]	09	9.4
400	31	7,608	-15.0	-29.3	09	8.8
350	31	8,608	-21.6	-35.6	09	7.7
300	31	9,722	-30.0	-43.1	08	6.6
250	31	10,994	-40.3	-51.0	09	5.9
200	31	12,476	-52.5		08	5.9
175	31	13,325	-59.4		09	6.6
150	21	14,272	-67.4		10	7.2
125	31	15,351	-75.[illegible]		10	9.7
100	31	16,618	-82.0		10	9.8
80	31	17,860	-83.1		09	8.9
70	31	18,611	-78.6		09	10.4
60	31	19,504	-72.1		09	12.2
50	31	20,597	-65.[illegible]		09	11.5
40	31	21,976	-59.4		09	3.1
30	31	23,802	-53.[illegible]		25	7.3
25	31	24,978	-52.0		26	13.1
20	31	26,433	-49.1		27	18.0
15	29	28,336	-46.5		27	21.6
10	26	31,053	-42.7		26	25.1
7	12	33,494	-38.[illegible]			

YUCCA FLAT, NV
883 MB

Standard pressure surface mb	No of observations	Dynamic height meters	Temperature °C	Dew Point °C †	Resultant Wind Direction tens of deg	Resultant Wind Speed m p s
SFC	31	1,198	-.3	-6.0	31	.[illegible]
1000						
950						
900						
850	31	1,506	[illegible].8	-4.1	31	1.1
800	31	2,003	5.[illegible]	-6.5	26	2.4
750	31	2,527	2.6	-8.7	27	4.2
700	31	3,082	-.1	-12.2	27	6.4
650	31	3,672	-3.3	-16.0	28	9.[illegible]
600	31	4,301	-7.3	-20.3	29	11.8
550	31	4,973	-11.8	-23.6	29	13.7
500	31	5,696	-16.4	-28.8	28	16.2
450	31	6,481	-21.7	-33.6	28	18.[illegible]
400	30	7,337	-27.7	-38.5	28	22.[illegible]
350	30	8,285	-35.0	-43.7	28	24.7
300	30	9,339	-43.1	-47.7	28	29.0
250	30	10,545	-51.7		28	32.7
200	30	11,970	-57.1		28	31.[illegible]
175	30	12,814	-57.8		28	29.8
150	30	13,783	-60.[illegible]		29	25.7
125	29	14,920	-63.0		29	23.7
100	29	16,284	-65.7		29	19.4
80	29	17,633	-67.[illegible]		29	13.5
70	29	18,438	-66.6		30	10.6
60	29	19,374	-65.4		30	9.1
50	26	20,491	-64.3		32	[illegible].1
40	22	21,861	-62.3		34	4.7
30	20	23,649	-60.7		34	4.1
25	17	24,796	-59.2		01	3.4
20	16	26,204	-58.4		33	4.3
15	11	28,017	-56.9		31	3.8

SOLAR RADIATION INTENSITIES

Tabulated in langleys per minute on a surface normal to the direction of the sun.

DECEMBER 1977

Sun's zenith distance

Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, NM

Air mass

	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
1-----	1.06	1.16	1.23	----	----	----	----	----	----
2-----	----	----	----	----	(1.33)	(1.33)	----	(1.14)	(1.01)
3-----	1.07	1.18	1.27	(1.43)	(1.39)	----	----	----	----
4-----	1.05	1.16	1.27	----	----	----	----	----	----
5-----	1.03	1.15	1.27	1.38	1.43	1.42	1.27	1.15	1.03
6-----	1.12	1.21	1.32	1.45	1.48	1.47	1.31	1.19	1.09
7-----	1.03	1.15	1.27	1.39	1.43	1.40	1.23	1.08	1.00
8-----	1.06	1.16	1.28	1.43	1.46	1.43	1.27	1.15	1.03
9-----	1.12	1.21	1.30	1.41	1.44	1.44	1.30	1.16	1.04
11----	.92	1.02	1.18	1.35	----	1.35	1.19	1.04	.96
12----	1.00	1.11	1.23	----	----	----	----	----	----
13----	1.07	1.16	1.26	1.43	1.42	1.40	1.26	1.15	1.04
14----	----	----	----	----	----	----	----	1.11	1.00
15----	1.08	1.18	1.28	1.41	1.42	1.39	1.25	1.13	1.04
16----	1.04	1.13	1.21	----	----	----	1.21	1.10	.97
17----	1.08	1.17	1.25	1.39	1.39	----	1.21	1.10	----
18----	----	----	----	1.34	1.35	1.32	----	----	----
20----	1.08	1.18	1.28	1.45	1.47	1.46	1.33	1.21	1.12
25----	1.08	1.18	----	----	----	----	----	----	----
Aver-ages	1.06	1.16	1.26	1.41	1.43	1.41	1.26	1.13	1.03

MADISON, WI

Air mass

	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
3-----	S .94	S1.07	S1.14	----	S1.25	----	S1.11	S .99	S .90
25----	----	----	----	----	----	----	S1.04	S .97	S .88
26----	----	----	----	----	----	----	S1.16	S1.16	S .95
27----	S .99	S1.08	S1.22	----	S1.31	----	S1.25	S1.17	S1.06
Aver-ages	.96	1.07	1.18	----	1.28	----	1.14	1.07	.94

TUCSON, AZ

Air mass

	4.64	3.71	2.78	1.86	*	1.86	2.78	3.71	4.64
1-----	.93	1.03	----	----	----	----	----	----	----
3-----	1.01	1.09	1.20	1.33	1.38	1.29	1.18	1.06	.98
4-----	1.01	1.10	1.20	1.33	1.38	1.30	1.17	1.03	.94
5-----	.97	1.07	1.17	1.33	1.38	1.31	1.19	1.07	.98
6-----	.94	1.05	1.21	1.32	1.39	1.33	1.19	1.08	.99
7-----	1.06	1.14	1.23	1.40	1.41	1.35	1.17	1.04	.97
8-----	.99	1.07	1.18	1.32	1.35	1.31	1.13	.99	.88
9-----	----	.99	----	----	----	----	----	----	----
10----	----	----	----	----	----	1.31	----	----	----
11----	----	1.03	----	1.31	1.35	1.30	1.19	1.01	.92
12----	1.00	1.11	1.22	1.31	1.39	----	1.13	1.02	.94
13----	H .85	H .93	H1.09	1.29	1.31	1.24	H1.11	.98	.87
14----	H .80	H .91	H1.01	1.23	1.31	1.27	D1.10	H .92	H .72
15----	.94	1.02	1.16	1.34	1.38	1.33	1.21	1.10	1.00
16----	D .73	D .90	D1.04	D1.14	D1.20	D1.17	D1.09	D .93	S .81
17----	.93	1.05	1.17	1.32	1.36	1.31	1.17	1.05	.93
18----	1.03	----	----	1.34	1.39	----	----	----	----
19----	.86	----	1.05	----	----	----	----	----	----
24----	----	----	----	----	1.31	1.26	----	----	----
28----	----	----	----	----	1.31	----	----	----	----
30----	.94	1.04	1.17	1.31	1.35	1.33	1.18	1.06	.98
Aver-ages	.94	1.03	1.15	1.31	1.35	1.29	1.16	1.02	.92

Sun's zenith distance

Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

BLUE HILL OBSERVATORY, MA

Air mass

	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89

NO DATA RECEIVED

MAUNA LOA OBSERVATORY, HI

Air mass

	3.34	2.67	2.01	1.34	*	1.34	2.01	2.67	3.34
1-----	1.26	1.35	1.44	1.55	1.62	----	1.43	1.34	1.28
2-----	1.26	1.34	1.42	1.54	1.62	----	----	----	----
3-----	1.23	1.30	1.38	1.48	1.58	----	1.37	1.29	1.19
4-----	1.32	1.39	1.49	1.58	----	----	----	----	----
5-----	1.29	1.37	1.46	1.56	----	----	----	----	----
6-----	1.27	1.36	1.45	1.56	----	1.56	1.45	1.37	1.30
7-----	1.22	1.30	1.40	1.50	----	----	----	----	----
8-----	1.22	1.30	1.38	1.49	1.57	----	----	1.24	1.17
9-----	1.18	1.27	1.37	1.49	1.59	1.49	1.37	1.27	1.19
10----	1.22	1.29	1.39	1.51	1.59	1.49	1.37	1.28	1.20
11----	1.25	1.32	1.42	1.52	1.60	1.49	1.37	1.21	1.16
12----	1.27	1.35	1.45	1.55	1.59	----	----	----	----
13----	1.29	1.37	1.46	1.56	1.60	1.52	1.43	1.34	1.26
14----	1.30	1.37	1.46	1.57	1.66	1.58	1.43	1.35	1.29
15----	1.30	1.39	1.48	1.59	1.66	1.59	1.48	1.45	1.33
16----	1.31	1.39	1.48	1.59	1.64	1.52	1.45	1.38	1.29
17----	1.30	1.39	1.46	1.57	1.62	1.53	1.44	1.35	1.27
18----	1.28	1.36	1.45	1.55	1.60	1.53	1.41	1.33	1.24
19----	----	1.35	1.44	1.54	1.62	1.51	1.41	1.33	1.24
21----	1.27	1.34	1.43	1.55	1.63	1.52	1.43	1.33	1.25
22----	1.24	1.32	1.41	1.52	1.61	1.51	1.39	1.31	1.24
23----	1.31	1.38	1.47	1.58	1.64	1.58	1.48	1.38	1.29
24----	1.33	1.40	1.49	1.59	1.67	1.56	1.46	1.37	1.29
25----	1.27	1.35	1.44	1.55	1.63	1.53	1.42	1.33	1.26
26----	1.30	1.37	1.46	1.56	----	----	----	----	----
28----	----	----	1.33	1.47	----	----	----	----	----
29----	1.22	1.31	1.40	1.51	1.62	1.51	1.41	1.31	1.24
30----	1.30	1.37	1.46	1.55	1.62	1.51	1.40	1.32	1.25
31----	1.25	1.33	1.41	1.53	1.60	----	----	----	----
Aver-ages	1.27	1.35	1.43	1.54	1.62	1.53	1.42	1.33	1.25

NET RADIATION

Net radiation in langleys per day (8 a.m. to 8 a.m.) at Palmer, Alaska.

DECEMBER 1977

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	- 60	- 22	-109	- 98	- 75	- 74	- 84	- 48	- 21	- 41	- 41	- 73	- 70	- 20	- 18	- 19	- 26	- 26	- 11	- 16	- 18	- 21	- 17	- 17	- 53	- 52	- 15	- 10	- 17	- 32	- 58	- 40

SOLAR ULTRA-VIOLET RADIATION DATA

Daily totals and monthly average (< 3900 Å) at Ames, Iowa

Date. . . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .																																

NO DATA RECEIVED

STORM SUMMARY LATE REPORTS

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				@HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				¢ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
JUNE 1977																													
New Jersey *																													
New York	1	1			4							3																	

REFERENCE NOTES

OBSERVED EXTREMES OF TEMPERATURE AND PRECIPITATION -- BY STATES: Dates in the table apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

+	And also on an earlier date or dates.
D	Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch of water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA - METRIC UNITS: Data from airport unless otherwise specified.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile data can be evaluated.

B	Number of days maximum 21.1°C. or above for Alaskan Stations.
Y	Peak Gust.
+	And also on an earlier date or dates.
U	Indicates Urban site.
R	Indicates Rural site.
Ø	Station pressures apply to elevations shown in the "Elevations" table of the annual issue of this publication.

Conversion formulae to English Units are as follows:

1 foot = 0.3048 meters
°F. = $\frac{9}{5}$ x °C + 32
1 inch = 25.4 millimeters
1 mile per hour = 0.447 meters per second

HEATING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

COOLING DEGREE DAYS: Data from airport unless otherwise specified.

U	Indicates Urban site.
R	Indicates Rural site.

STORM SUMMARY:

°	Includes crop damage.
C	Crop damage.
*	No occurrence of storms or unusual weather phenomena reported.
@	Includes heavy sleet storm.
#	Freezing drizzle and freezing rain, commonly known as glaze.
Ø	For breakdown of "All Others," and for detailed listing of other storms, see the Environmental Data Service, NOAA, monthly publication STORM DATA.
‡	No Storm Data Report received for this State.
<>	Report Incomplete.
†	Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5 Million
7	$5 Million to $50 Million
8	$50 Million to $500 Million
9	$500 Million to $5 Billion.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS:

1/	Flooding continued at the end of the month.
NA	Not available.

FLOOD STAGE DATA:

#	Highest Stage Observed
1/	Continued at end of month
___	Highest Stage of Record
E	Estimated
P	Provisional (Flood Stage)
U	Unknown

RAWINSONDE DATA (Average Monthly Values):

All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Dew Point averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Dew Point data are not published for standard pressure surfaces for which less than 5 observations are available. Dew Point data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from carbon hygristors. These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature and dew point in degrees Celsius, and resultant winds in tens of degrees and meters per second.

*	Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.
+	Observations for these stations are scheduled at 0000 G.C.T.
†	Dew Point temperatures are based on a minimum of 5 observations. Therefore, due to the lesser number of Dew Point observations at the higher levels comparison with dry-bulb temperatures should be made with care. Dew Point temperatures replaced Relative Humidity January 1967.

REFERENCE NOTES

SOLAR RADIATION INTENSITIES: Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

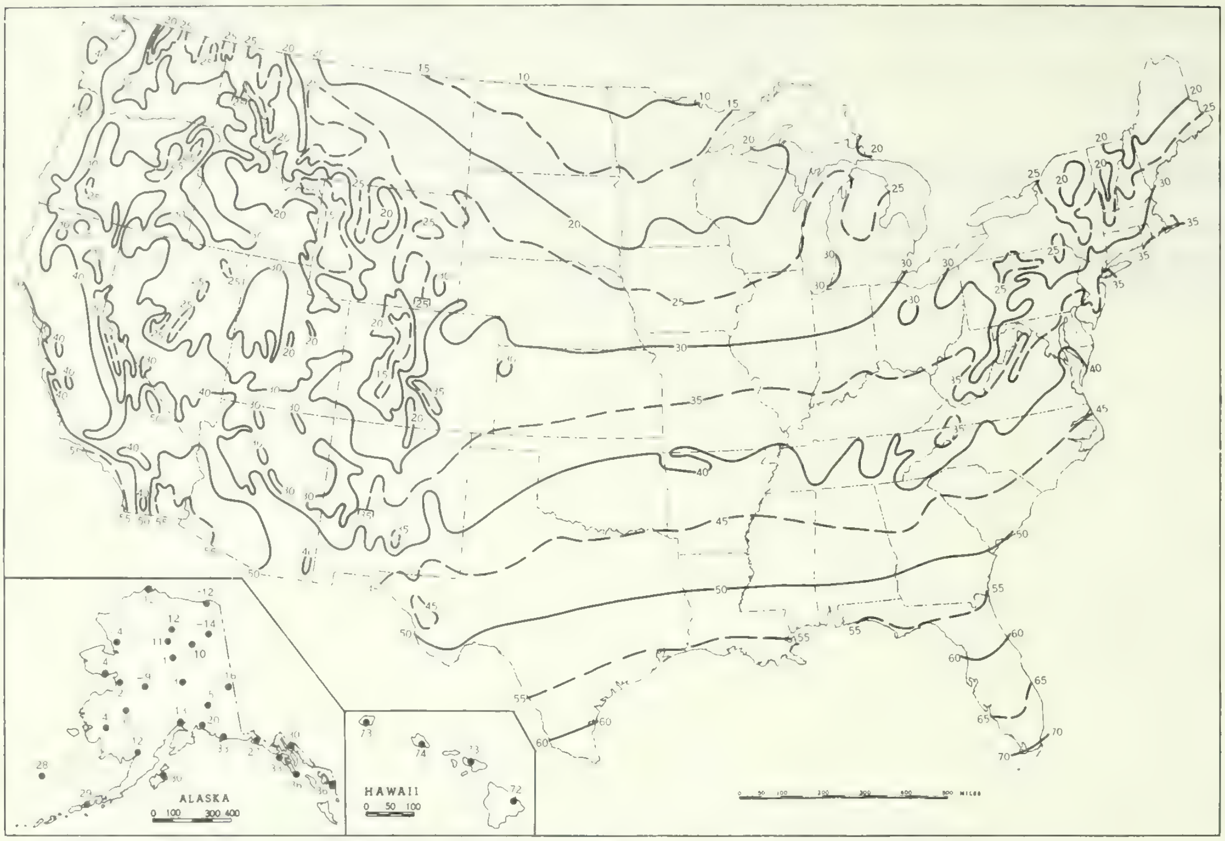
()	Clouds Present	DM	Moderate Dust	HM	Moderate Haze	KS	Slight Smoke
•	Values corresponding to true solar noon	DS	Slight Dust	HS	Slight Haze	M	Moderate Haze-indeterminable
BD	Blowing Dust	F	Fog	I	Intense Haze-indeterminable		
BN	Blowing Sand	GF	Ground Fog	K	Smoke	N	Sand
D	Dust	H	Haze	KI	Intense Smoke	S	Slight Haze-indeterminable
DI	Intense Dust	HI	Intense Haze	KM	Moderate Smoke		

NET RADIATION: The measurement is made with a CSIRO FUNK net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

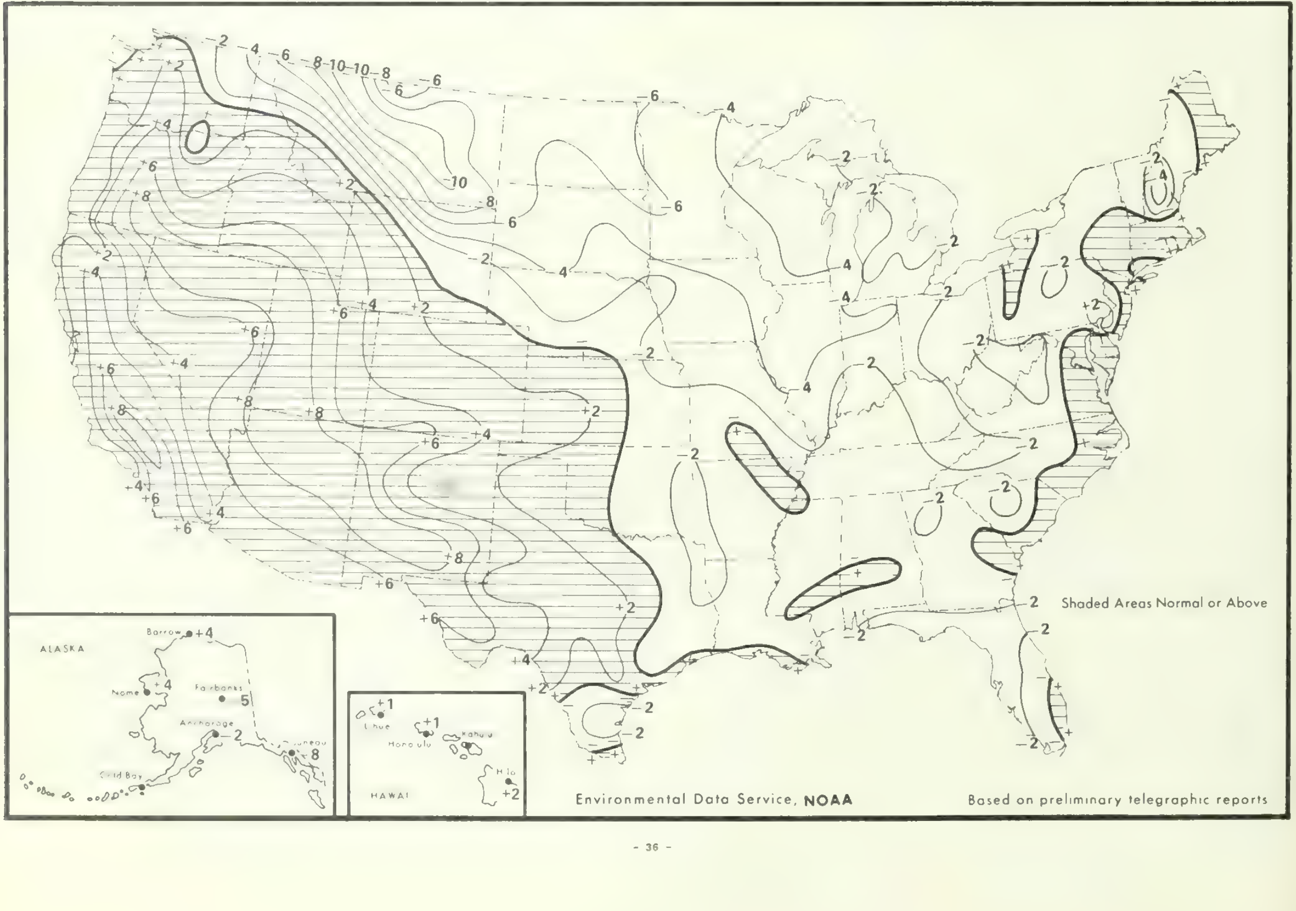
These data are of an experimental nature and are published as received from the Palmer Exp. Station. The instrument with which they were measured has not been checked by the NOAA, National Weather Service.

SOLAR ULTRA-VIOLET RADIATION DATA: These data are from an U-V Eppley total ultra violet sensor and Speedomax H (Leeds Northrup) Recorder. This instrument has not been checked by the NOAA, National Weather Service.

Chart 1. A. Normal Daily Average Temperature (°F. 1941-70), December.



B. Temperature Departure from 30 - Year Mean (°F 1941-70), December 1977

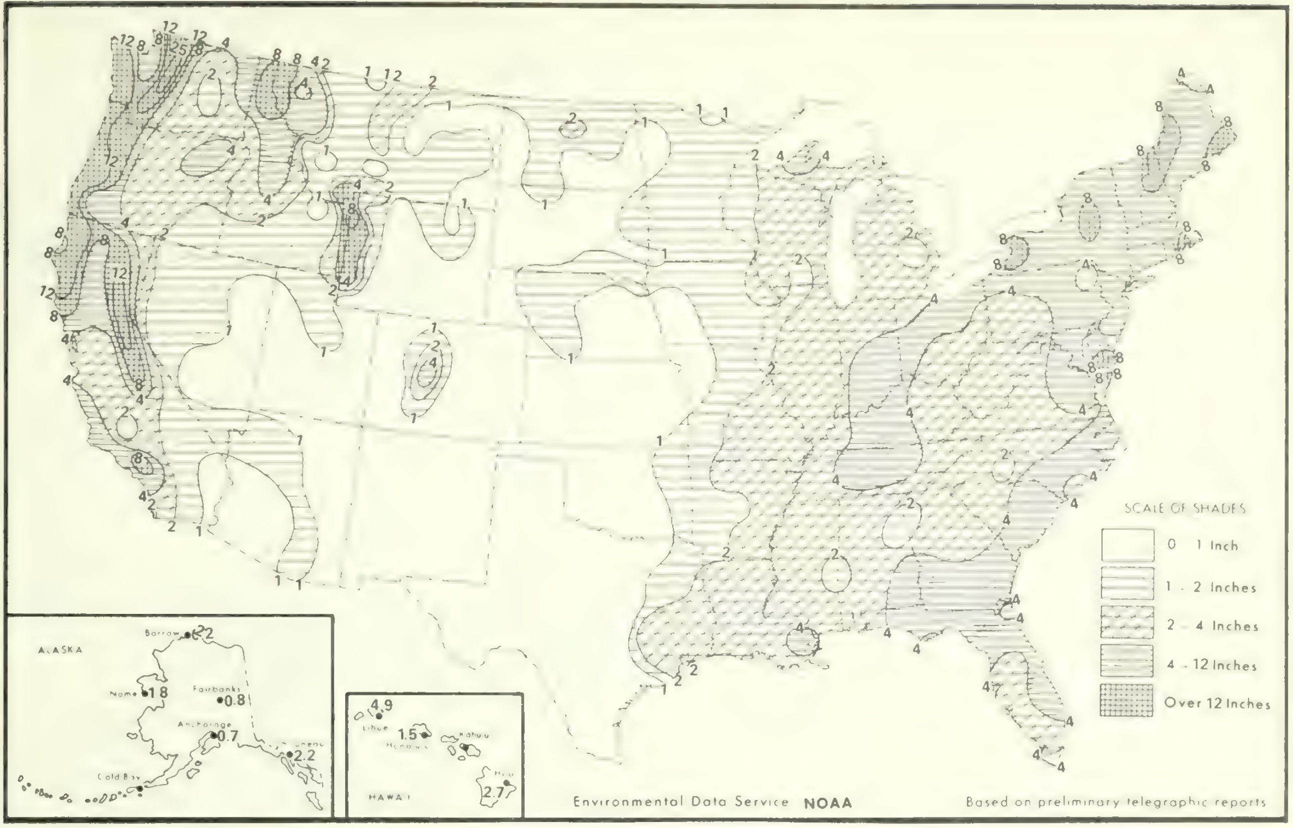


Shaded Areas Normal or Above

Environmental Data Service, **NOAA**

Based on preliminary telegraphic reports

Chart II. A. Total Precipitation (Inches), December 1977



B. Percentage of Normal Precipitation, December 1977

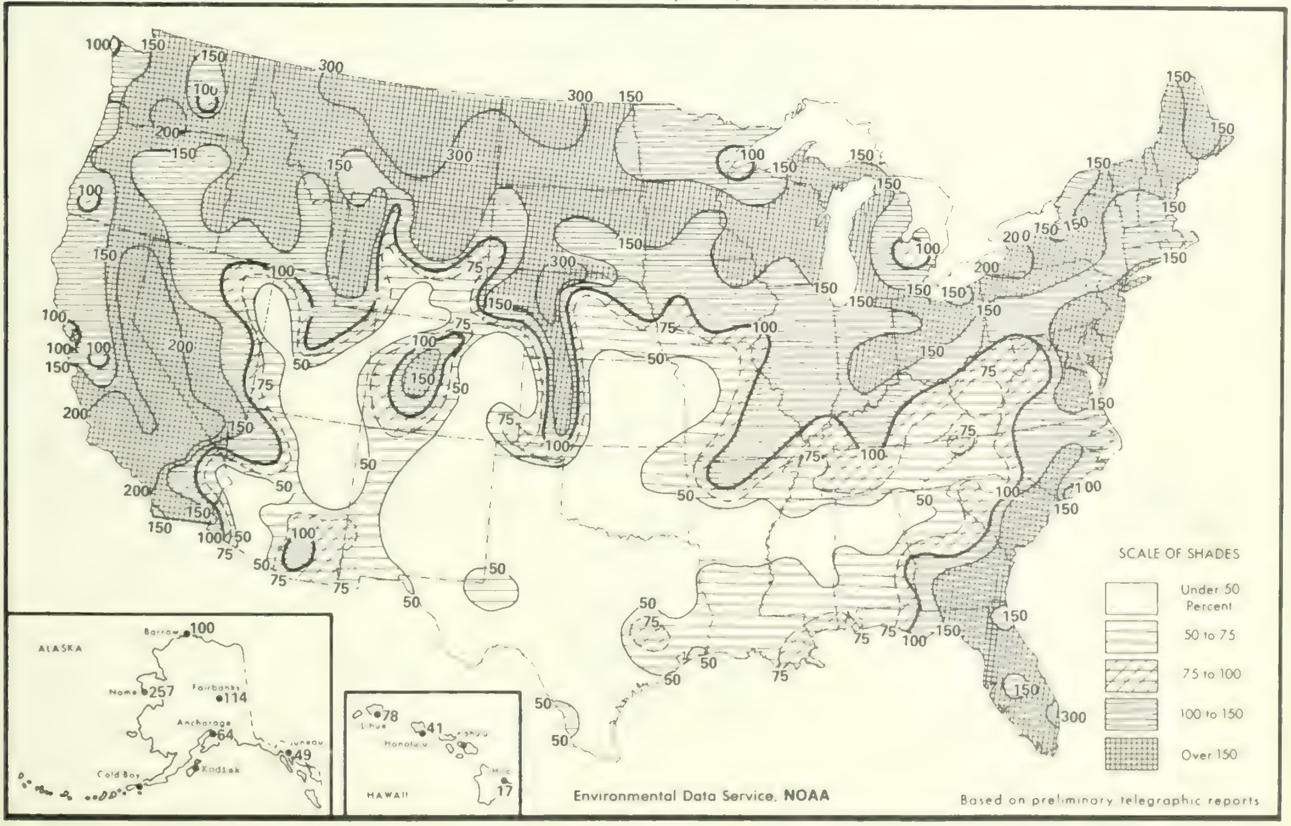
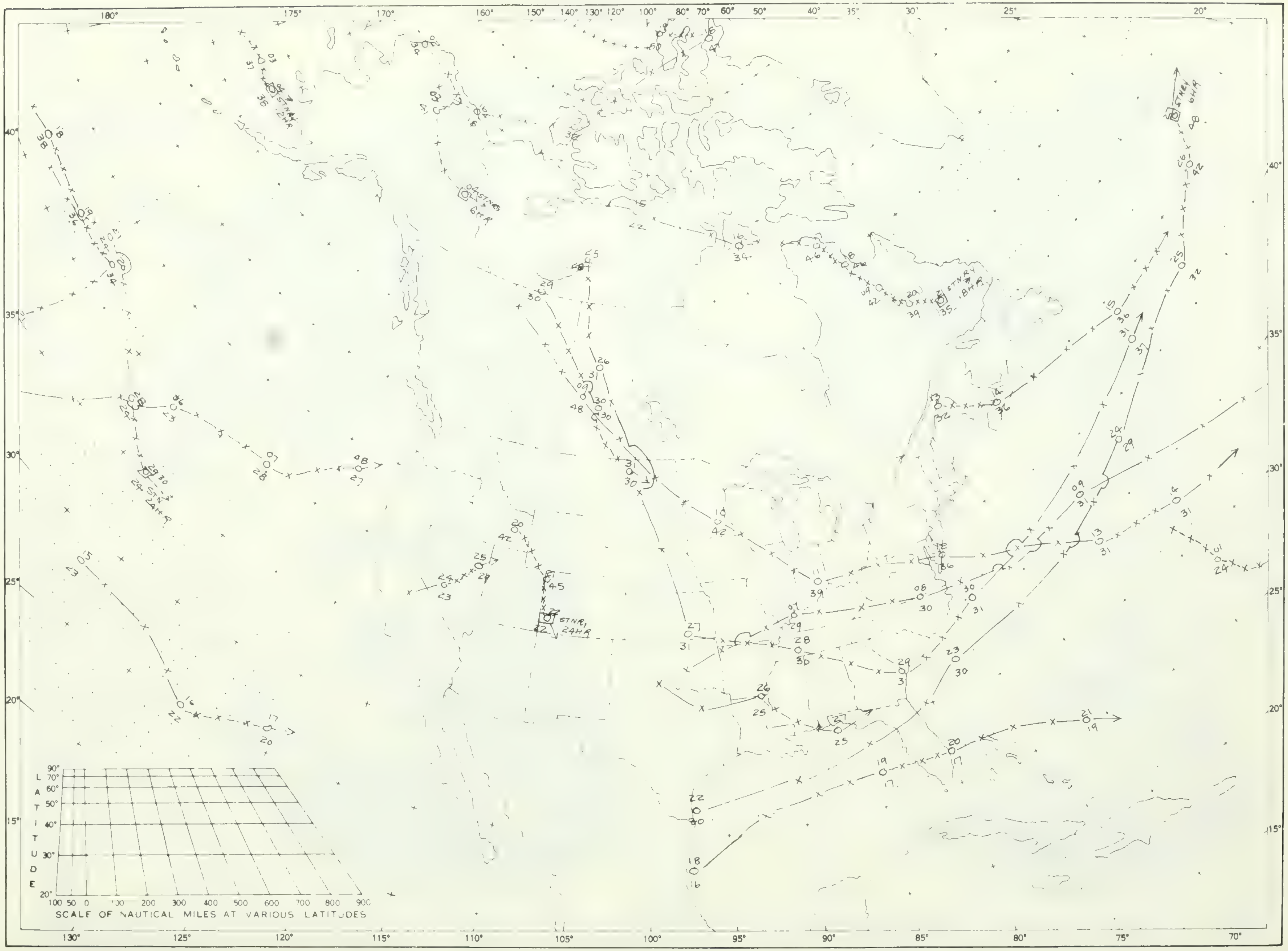
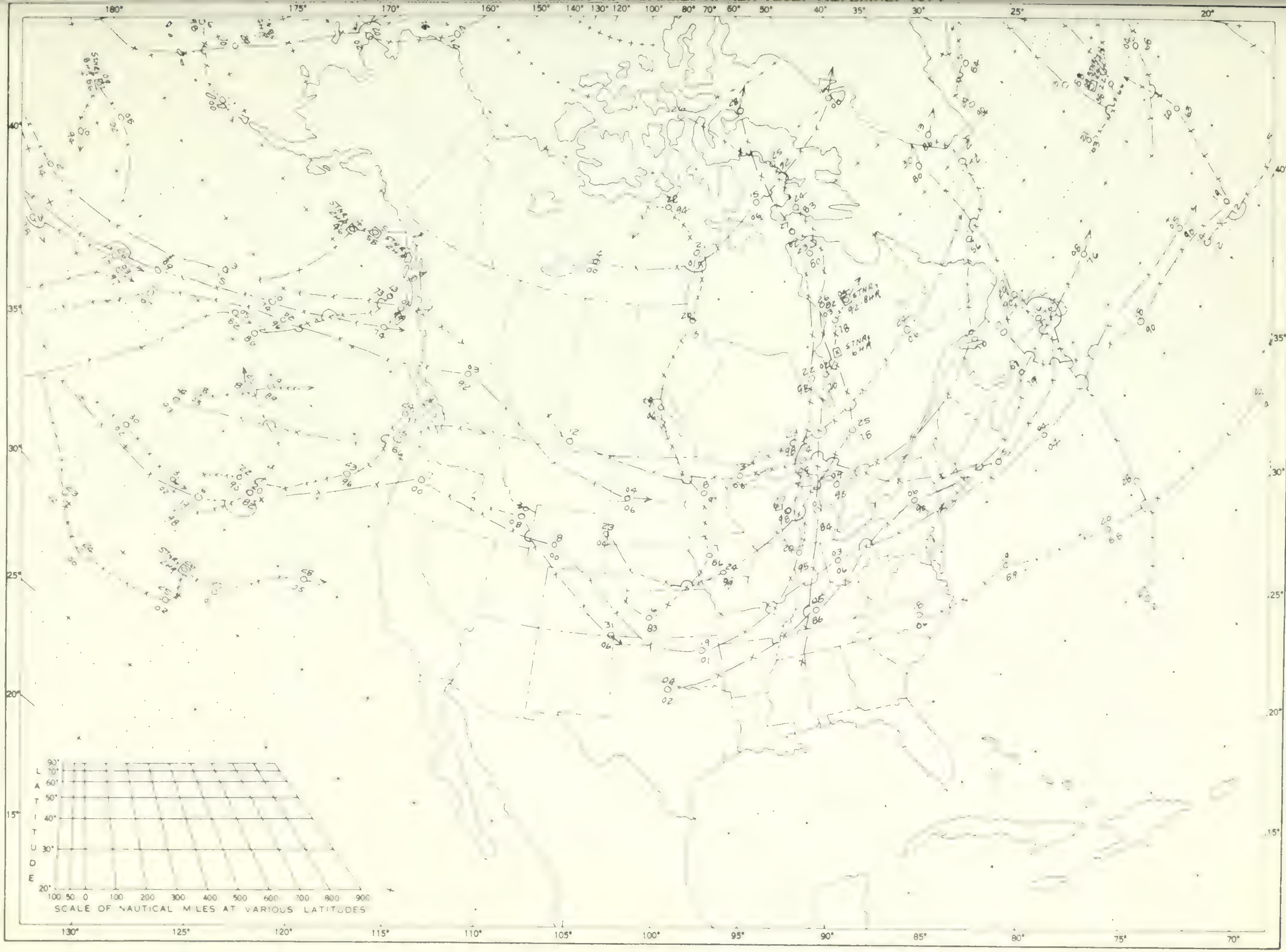


Chart III Tracks of Centers of Anticyclones at Sea Level, December 1977



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar.
X's indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown: Dashed line in track



Circle indicates position of center at 7:00 a.m. E.S.T. Figure above circle indicates date, figure below, pressure to nearest millibar. X's indicate intervening 6 hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

USCOMM-NOAA-ASHEVILLE, N.C. 1978-2070

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1977 ANNUAL SUMMARY VOLUME 28 NUMBER 13

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

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Daniel B. Mitchell
DIRECTOR
NATIONAL CLIMATIC CENTER

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Published monthly and annually by the National Climatic Center, Federal Building, Asheville, NC 28801
Controlled Circulation Rate. Publication No. 363010.

SUBSCRIPTION PRICE: $10.20 a year including annual summary: $9.10 additional for foreign mailing; 70¢ single copy; $1.80 annual summary. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, NC 28801. Attn: Publications.

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

YEAR 1977

GENERAL SUMMARY OF WEATHER CONDITIONS

Lewis A. Blodgett, Meteorological Advisor, NCC

January was the coldest month of record in the Ohio Valley and in much of the East and Southeast. It was a very cold month nearly everywhere east of the Rockies. Several Midwestern stations did not experience a maximum above freezing for the entire month, for the first time on record of such an occurrence. As to be expected, most of the precipitation fell as snow, with several stations reporting their snowiest January. A record blizzard buried Buffalo late in the month. The cold reached its peak shortly past midmonth when an Arctic air mass caused a number of all-time lows, with severe freeze damage and snow flurries in southern Florida.

In the West, the story was different. The usual winter storms failed to appear and it was one of the driest Januaries, causing severe water shortages. The record low snowpack in the western mountains indicated poor prospects for irrigation and other water uses. Temperatures were warmer than normal, and Alaska had its warmest January.

After the first week of February, temperatures moderated in the severely cold East, with unseasonably warm readings widespread in the second half of the month. The Southeast still averaged somewhat below the normal temperature for February, but the rest of the country became warmer than normal. Departures reached 16° above normal in Montana. It was a dry month; the drought continuing in the West, and only some Midwestern areas reported above monthly normal precipitation, which fell mostly at the end of the month.

March was a warm month everywhere, except in the Southwest. Some welcome rain fell in the drought-plagued West, while heavy rain fell in the Great Plains and Midwest. Some stations in these regions reported their wettest March.

Warm weather persisted in April, with a mid-month heat wave sending temperatures to the low 90°'s in the Northeast, paralleling a similar occurrence the year before. Only Maine, Texas, and a few small Southern areas reported monthly temperatures below normal. It was dry in the West and Southeast, with above normal precipitation from New Mexico northeastward through Minnesota, and in the Appalachians where heavy rains caused severe flooding in some areas early in the month.

May continued the warmer than normal trend, except for west of Rockies, where temperatures were cooler than usual. Heavy rains fell in the West, Central Plains, and isolated Eastern Coastal areas. Parts of the East were quite dry. An unusual snowstorm occurred in the Northeast during the second week, with all time snow records for May.

Except for the Northeast, June was a warm month. Monthly departures exceeded 8° in parts of the West. Rainfall was quite varied, but much of the country experienced below normal precipitation. Drought became serious in the Southeast.

July continued hot and dry in much of the Southeast, stressing crops. Most of the Nation except for the Northwest experienced a hot July. Precipitation was again spotty, but large parts of the normally dry West received above normal rainfall.

Some reversal of pattern occurred during August, as the Northwest warmed, and from Montana to New York southward to northern Texas monthly temperatures dropped below normal, as much as 6° to 8° in the Dakotas and eastern Montana. Precipitation was ample, with most areas of the Country receiving above average rainfall. Some pockets of dryness remained in Texas and the mid-South.

September was a warm month in most of the Nation. Only the extreme North and Northwest experienced cooler than normal temperatures. Heavy rains early in the month caused flooding in the Midwest and harvesting delays. Most of the Country, except the Southwest and isolated Eastern areas, experienced excessive rainfall.

Above normal precipitation continued in October from southern Mississippi through New England. Much of the West was drier than normal. In general, temperatures were warmer than normal west of the Rockies and cooler than normal east of them.

Although November was in general warmer than normal, by midmonth significant snow fell in the Northwest and the Great Lakes area, where monthly temperatures did average below normal. Ample moisture fell in the Northwest as well as most of the Midwest and East.

December was colder than normal east of the Continental Divide, while the West continued warm. The mid-South was dry. However, significant precipitation fell during this first winter month in the West, contrasting sharply with last year and promising to end the 2-year Western drought.

MAXIMUM SHORT DURATION PRECIPITATION

BIRMINGHAM, ALABAMA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.12	.20	.22	.24	.27	.32	.38	.52	.57	.60	.70	.78
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1025	1029	1035	1029	1035	1029	1035	1029	1025	1025	1240	1310
FEB	.28	.39	.59	.64	.70	.77	.82	.87	.90	1.10	1.27	1.34
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2018	2029	2028	2032	2042	2057	2112	2132	2152	2212	2242	2301
MAR	.14	.23	.26	.30	.36	.56	.70	.80	.84	.87	.94	1.04
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0920	0929	0930	0939	0945	1000	1015	1007	1007	1115	1145	1215
APR	.12	.37	.62	.74	.83	1.01	1.34	1.46	1.47	1.53	1.68	1.87
DATE	03	02	03	03	03	03	03	03	03	03	03	03
TIME	0303	2158	1517	1522	1532	1547	1602	1622	1642	1702	1732	1802
MAY	.40	.60	.70	.85	1.40	1.49	1.50	1.50	1.50	1.50	1.54	1.91
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1525	1530	1535	1540	1550	1605	1620	1640	1700	1720	1750	1820
JUN	.15	.24	.26	.28	.32	.35	.35	.36	.36	.36	.36	.36
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1315	1320	1325	1330	1340	1355	1410	1430	1450	1510	1540	1610
JUL	.35	.58	.75	.85	1.10	1.22	1.23	1.23	1.25	1.25	1.27	1.28
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1428	1433	1438	1443	1453	1508	1523	1543	1603	1623	1653	1723
AUG	.19	[illegible]	[illegible]	.26	.33	.38	.42	.46	.48	.50	.51	.52
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1735	1740	1745	1750	1740	1750	1805	1825	1845	1905	1935	2005
SEP	.35	.69	.75	.87	1.42	1.77	2.17	2.53	2.93	3.34	3.52	3.59
DATE	19	19	19	19	07	07	07	07	07	07	07	07
TIME	0959	1004	1009	1014	0023	0023	0023	0023	0023	0023	0023	0023
OCT	.20	.37	.42	.55	.77	.87	1.01	1.14	1.22	1.28	1.30	1.52
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1745	1750	1755	1800	1810	1825	1840	1900	1920	1940	2010	2040
NOV	.10	.12	.13	.14	.20	.21	.29	.38	.43	.47	.54	.57
DATE	03	03	03	03	16	16	03	03	03	03	03	03
TIME	1242	1247	1252	1257	1501	1501	1249	1309	1313	1313	1313	1313
DEC	.25	.30	.30	.30	.30	.30	.30	.37	.38	.43	.53	.57
DATE	05	05	05	05	05	05	05	17	17	17	17	17
TIME	0247	0252	0257	0302	0312	0327	0342	1039	1045	1045	1045	1045
YEAR	.40	.69	.75	.87	1.42	1.77	2.17	2.53	2.93	3.34	3.52	3.59
MONTH	05	09	09	09	09	09	09	09	09	09	09	09

MONTGOMERY, ALABAMA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.12	.20	.22	.24	.26	.33	.38	.44	.55	.61	.68	.77
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1508	1514	1518	1524	1529	1526	1603	1608	1619	1619	1644	1648
FEB	.36	.60	.76	.92	1.32	1.73	1.84	1.91	1.96	2.01	2.01	2.01
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2154	2159	2204	2209	2219	2232	2245	2304	2324	2348	2348	2348
MAR	.16	.19	.26	.31	.41	.50	.56	.61	.67	.76	.90	.97
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0328	0333	0338	0343	0353	0408	0423	0443	0502	0523	0554	0612
APR	.12	.18	.21	.23	.31	.40	.56	.57	.59	.59	.62	.70
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1418	1418	1418	1418	1429	1448	1458	1458	1458	1458	1543	1633
MAY	.24	.38	.48	.60	.74	.79	.98	1.02	1.02	1.05	1.12	1.16
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1406	1409	1404	1407	1415	1432	1444	1507	1527	1540	1618	1648
JUN	.18	.34	.44	.54	.73	.90	.99	1.03	1.03	1.03	1.04	1.05
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1459	1509	1505	1509	1515	1518	1529	1536	1536	1536	1645	1713
JUL	.44	.62	.84	1.08	1.43	1.71	1.80	1.84	2.04	2.04	2.04	2.04
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1420	1423	1427	1439	1437	1451	1506	1512	1547	1547	1547	1547
AUG	.37	.61	.90	1.10	1.50	1.68	1.73	1.75	1.77	1.80	1.82	1.89
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1608	1608	1611	1611	1618	1631	1646	1701	1701	1714	1748	1804
SEP	.40	.64	.70	.72	1.04	1.32	1.40	1.46	1.52	1.56	1.62	1.67
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1632	1637	1634	1636	1636	1700	1706	1720	1742	1758	1828	1901
OCT	.10	.14	.16	.21	.30	.33	.34	.36	.36	.37	.37	.40
DATE	25	28	25	25	25	25	25	25	25	25	25	25
TIME	0729	2221	0730	0730	0730	0743	0757	0757	0757	0757	0757	0743
NOV	.08	.15	.17	.18	.20	.28	.35	.44	.51	.56	.69	.78
DATE	05	05	05	05	05	04	04	04	04	04	04	04
TIME	1730	1733	1730	1734	1756	1139	1139	1139	1139	1139	1139	1214
DEC	.31	.31	.31	.32	.34	.37	.40	.54	.54	.56	.56	.56
DATE	05	05	05	13	13	13	13	05	05	05	05	05
TIME	1050	1050	1050	2330	2330	2339	2356	1050	1050	1732	1732	1732
YEAR	.44	.64	.90	1.10	1.50	1.73	1.84	1.91	2.04	2.04	2.04	2.04
MONTH	07	09	08	08	08	02	02	02	07	07	07	07

TUCSON, ARIZONA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.10	.12	.14	.14	.16	.18	.19	.22	.28	.32	.39	.44
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1626	1631	1636	1641	1651	1706	1721	2106	2132	2152	2222	2252
FEB	T	.01	.01	.01	.02	.02	.03	.04	.04	.04	.04	.04
DATE		24	24	24	24	24	24	25	25	25	25	25
TIME		2259	2304	2307	2319	2334	2349	0009	0029	0020	0035	0035
MAR	.03	.05	.07	.09	.13	.18	.22	.25	.29	.31	.31	.32
DATE	25	25	25	25	26	26	26	26	26	26	26	26
TIME	2354	2354	2358	2359	0001	0004	0008	0024	0017	0027	0037	0127
APR	.04	.06	.06	.07	.10	.13	.16	.19	.23	.27	.27	.27
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1408	1419	2134	2149	2159	2204	2219	2228	2226	2230	2245	2315
MAY	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1559	1604	1609	1724	1726	1726	1726	1726	1726	1726	1726	1726
JUN	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1115	1120	1125	1130	1140	1155	1210	1230	1230	1230	1230	1230
JUL	.07	.09	.10	.11	.12	.14	.16	.18	.20	.21	.22	.23
DATE	22	22	22	22	22	22	22	22	22	22	23	23
TIME	2241	2243	2244	2246	2250	2305	2320	2340	2346	2349	0016	0044
AUG	.18	.29	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1330	1331	1331	1334	1334	1334	1349	1405	1425	1425	1425	1425
SEP	.28	.43	.55	.70	.82	.85	.89	.90	.99	.99	.99	.99
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	2003	2004	2016	2021	2022	2022	2020	2020	2020	2020	2020	2020
OCT	.17	.29	.31	.33	.43	.57	.66	.76	.76	.76	.76	.76
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1228	1229	1231	1231	1229	1231	1231	1249	1245	1305	1330	1330
NOV	.03	.04	.05	.06	.09	.12	.13	.14	.15	.16	.16	.16
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0711	0713	0716	0718	0714	0729	0730	0750	0810	0810	0900	0930
DEC	.12	.19	.24	.27	.32	.39	.44	.47	.49	.51	.51	.51
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0723	0727	0726	0731	0741	0750	0806	0824	0834	0834	0904	0934
YEAR	.28	.43	.55	.70	.82	.85	.89	.90	.99	.99	.99	.99
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

HUNTSVILLE, ALABAMA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.04	.07	.10	.13	.16	.21	.32	.37	.41	.54	.60	.75
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0850	0855	0900	0905	0915	0930	1215	1215	1229	1345	1415	1445
FEB	.19	.34	.47	.56	.66	.71	.76	.87	1.06	1.10	1.32	1.39
DATE	26	26	26	26	26	26	26	23	23	23	23	23
TIME	2131	2131	2132	2136	2145	2207	2215	2037	2109	2112	2142	2200
MAR	.17	.33	.46	.53	.60	.78	.79	.81	1.08	1.10	1.27	1.90
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0450	0455	0500	0500	0510	0800	0800	0818	0854	0914	0944	1015
APR	.17	.25	.32	.36	.48	.50	.59	.69	.82	.84	1.00	1.16
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	2149	2152	2152	2152	2159	2215	2230	2215	2215	2205	2205	2205
MAY	.40	.75	.85	1.16	1.54	1.87	2.13	2.14	2.16	2.21	2.26	2.28
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1828	1830	1833	1838	1845	1845	1902	1930	1950	2008	2040	2108
JUN	.25	.40	.46	.51	.55	.65	.67	.70	.74	.76	.80	.81
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1553	1558	1603	1608	1616	1631	1646	1709	1728	1745	1817	1847
JUL	.50	.57	.68	1.02	1.13	1.15	1.16	1.16	1.16	1.16	1.16	1.16
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1435	1438	1438	1443	1443	1447	1450	1505	1505	1505	1505	1505
AUG	.41	.56	.57	.57	.68	1.00	1.20	1.22	1.22	1.24	1.27	1.27
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1125	1130	1135	1135	0448	0503	0518	0538	0558	0618	0650	0650
SEP	.20	.33	.35	.40	.45	.56	.86	1.07	1.25	1.28	1.32	1.35
DATE	25	25	25	25	25	14	25	25	25	25	25	25
TIME	1336	1341	1346	1351	1401	1642	1430	1450	1510	1530	1600	1630
OCT	.09	.18	.25	.28	.35	.42	.49	.55	.60	.65	.72	.83
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1135	1140	1145	1145	1145	1200	1200	1210	1233	1250	1320	1200
NOV	.20	.30	.35	.42	.57	.71	.79	1.08	1.20	1.30	1.65	1.97
DATE	14	03	28	21	21	03	03	21	21	21	28	28
TIME	2334	1849	1735	0437	0647	1545	1545	0750	0810	0830	2137	2005
DEC	.09	.18	.20	.26	.26	.26	.26	.26	.26	.33	.36	.43
DATE	05	05	05	05	05	05	05	05	05	13	24	24
TIME	0440	0440	0440	0440	0440	0440	0440	0440	0440	1115	1715	1715
YEAR	.50	.75	.85	1.16	1.54	1.87	2.13	2.14	2.16	2.21	2.26	2.28
MONTH	07	05	05	05	05	05	05	05	05	05	05	05

FLAGSTAFF, ARIZONA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.04	.05	.05	.07	.11	.16	.17	.20	.23	.27	.30
DATE	04	04	04	04	04	03	03	03	03	03	04	03
TIME	0117	0122	0128	0130	0145	0540	0540	0600	0615	0635	0410	1200
FEB	.02	.03	.04	.04	.05	.06	.08	.09	.12	.14	.17	.19
DATE	24	24	24	24	24	24	09	24	24	10	24	24
TIME	1650	1655	1655	1655	1705	1705	2330	1709	1625	0000	1705	1705
MAR	.03	.04	.07	.08	.09	.10	.10	.11	.12	.13	.14	.14
DATE	03	16	16	16	16	16	16	16	16	16	16	16
TIME	0046	0046	0046	0046	0100	0046	0100	0135	0135	0150	0145	0200
APR	.09	.13	.17	.21	.26	.33	.43	.49	.59	.65	.75	.86
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0045	0049	0045	0045	0049	0045	0100	0120	0120	0120	0120	0125
MAY	.02	.03	.04	.05	.07	.11	.13	.16	.18	.21	.23	.26
DATE	13	13	13	13	13	24	24	24	24	24	24	24
TIME	1645	1649	1645	1655	1655	1426	1431	1431	1431	1431	1431	1431
JUN	.08	.14	.18	.20	.22	.25	.27	.27	.27	.27	.27	.27
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2000	2100	2000	2002	2016	2031	2035	2035	2035	2035	2035	2035
JUL	.33	.58	.68	1.00	1.05	1.10	1.35	1.36	1.36	1.37	1.37	1.37
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1247	1252	1302	1255	1305	1302	1331	1342	1358	1403	1403	1403
AUG	.20	.28	.37	.47	.57	.80	1.03	1.19	1.25	1.26	1.26	1.27
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1335	1339	1340	1345	1347	1335	1345	1405	1425	1445	1445	1545
SEP	.13	.23	.30	.32	.36	.40	.41	.41	.42	.42	.42	.42
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1705	1709	1710	1715	1730	1740	1755	1815	1835	1900	1930	2000
OCT	.21	.21	.21	.21	.21	.27	.39	.42	.48	.52	.61	.67
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0640	0640	0640	0640	0640	0400	0415	0439	0459	0515	0545	0620
NOV	.03	.04	.05	.05	.08	.10	.11	.13	.14	.15	.16	.17
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1915	1919	1925	1925	1930	1930	1955	1955	1955	1955	0505	0535
DEC	.06	.07	.10	.12	.15	.18	.18	.21	.21	.24	.24	.28
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1325	1329	1325	1325	1325	1325	1325	1329	1325	1325	1325	1546
YEAR	.33	.58	.68	1.00	1.05	1.10	1.35	1.36	1.36	1.37	1.37	1.37
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

WINSLOW, ARIZONA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.01	.01	.01	.02	.03	.04	.04	.05	.05	.06	.08
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1550	1555	1600	1605	1615	1630	1550	1550	1550	1550	1550	1550
FEB	.04	.04	.07	.08	.10	.12	.18	.21	.23	.28	.33	.36
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1600	1600	1600	1605	1615	1630	1645	1645	1645	1645	1645	1645
MAR	.05	.07	.07	.07	.07	.07	.07	.09	.10	.10	.10	.10
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1637	1642	1642	1642	1642	1642	1642	1757	1817	1817	1817	1817
APR	.03	.04	.05	.06	.07	.07	.07	.09	.11	.12	.15	.16
DATE	03	03	03	03	03	03	03	03	03	03	02	02
TIME	0344	0344	0344	0344	0344	0400	0400	0400	0400	0400	0437	0508
MAY	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUN	.03	.05	.06	.06	.06	.06	.06	.06	.08	.09	.10	.10
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1242	1247	1252	1257	1307	1322	1337	1357	1417	1437	1507	1537
JUL	.23	.36	.40	.41	.45	.47	.48	.49	.68	.78	.78	.78
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1507	1512	1517	1522	1532	1547	1547	1547	1547	1547	1547	1547
AUG	.22	.38	.48	.54	.62	.70	.78	.79	.79	.79	.79	.79
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1500	1505	1500	1505	1515	1530	1545	1605	1625	1645	1715	1745
SEP	.18	.34	.39	.43	.48	.52	.53	.53	.53	.53	.53	.53
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1850	1855	1900	1900	1910	1843	1940	1940	1940	1940	1940	1940
OCT	.06	.10	.14	.17	.21	.24	.33	.34	.35	.38	.39	.45
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0832	0837	0839	0841	0847	0851	0851	0851	0851	0851	0851	0851
NOV	.01	.01	.01	.02	.02	.03	.03	.03	.03	.03	.03	.03
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0745	0750	0800	0805	0815	0830	0845	0909	0925	0945	1115	1145
DEC	.02	.03	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1505	1509	1510	1515	1515	1515	1515	1515	1515	1515	1515	1515
YEAR	.23	.38	.48	.54	.62	.70	.78	.79	.79	.79	.79	.79
MONTH	07	08	08	08	08	08	08	08	08	08	08	08

MOBILE, ALABAMA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.40	.44	.48	.51	.60	.69	.70	.83	.90	1.05	1.16	1.22
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0410	0420	0413	0415	0415	0425	0415	0415	0425	0445	0515	0515
FEB	.25	.44	.47	.49	.50	.51	.52	.53	.54	.54	.56	.56
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0020	0025	0029	0030	0040	0050	0105	0130	0150	0200	0235	0305
MAR	.30	.50	.65	.75	.80	.88	.91	.93	.98	1.01	1.12	1.13
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0338	0347	0347	0352	0404	0417	0432	0452	0513	0532	0602	0632
APR	.30	.50	.70	.78	.95	1.29	1.42	1.47	1.52	1.58	1.63	1.67
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0615	0620	0635	0640	0640	0655	0710	0730	0750	0810	0840	0910
MAY	.25	.50	.62	.77	.90	1.02	1.08	1.10	1.14	1.16	1.23	1.37
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0829	0829	0829	0829	0832	0841	0843	0843	0843	0906	1022	1052
JUN	.16	.30	.33	.38	.41	.42	.43	.44	.45	.45	.48	.63
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1842	1849	1844	1846	1853	1900	1911	1910	1910	1911	1911	1935
JUL	.56	.87	1.06	1.27	1.42	1.45	1.45	1.49	1.49	1.49	1.49	1.49
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1551	1550	1600	1601	1611	1615	1643	1702	1709	1709	1709	1709
AUG	.36	.57	.61	.66	.75	.77	.77	.77	.77	.77	.77	.87
DATE	22	22	22	22	22	22	22	22	22	22	22	04
TIME	1502	1507	1512	1522	1511	1525	1525	1525	1525	1525	1515	1628
SEP	.55	.75	1.06	1.25	1.50	1.58	1.59	1.59	1.59	1.64	1.65	1.70
DATE	09	28	28	28	28	28	28	28	28	28	28	28
TIME	1044	1651	1658	1700	1709	1715	1730	1730	1750	1815	1845	1930
OCT	.23	.29	.35	.48	.68	.80	.96	1.27	1.36	1.37	1.62	1.92
DATE	02	02	02	25	25	25	25	25	25	25	25	25
TIME	1131	1137	1139	0033	0045	0055	0056	0059	0059	0159	0205	0209
NOV	.45	.69	.70	.79	.96	1.16	1.40	1.73	1.91	1.96	2.18	2.27
DATE	30	30	30	30	22	22	21	21	21	21	21	21
TIME	0155	0159	0200	0205	1231	1230	1713	1731	1752	1810	1845	1913
DEC	.47	.57	.67	.72	.89	1.19	1.42	1.44	1.45	1.45	1.46	1.46
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1000	1000	1000	1000	1000	1000	1000	1020	1040	1100	1120	1120
YEAR	.56	.87	1.06	1.27	1.50	1.58	1.59	1.73	1.91	1.96	2.18	2.27
MONTH	07	07	09	07	09	09	09	11	11	11	11	11

PHOENIX, ARIZONA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.05	.07	.08	.09	.13	.14	.15	.15	.15
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0110	0119	0115	0125	0115	0130	0145	0209	0225	0245	0245	0300
FEB	.02	.03	.03	.03	.03	.03	.04	.05	.06	.06	.06	.06
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1753	1758	1803	1808	1815	1830	1849	1909	1910	1910	1910	1910
MAR	.02	.04	.04	.05	.06	.07	.07	.08	.08	.11	.15	.16
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1747	1752	1757	1802	1812	1817	1830	1840	1910	1930	2000	2015
APR	.02	.02	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1725	1730	1735	1740	1750	1800	1815	1830	1830	1830	1830	1830
MAY	.02	.03	.03	.04	.05	.08	.10	.10	.10	.10	.10	.10
DATE	13	13	24	24	24	24	24	24	24	24	24	24
TIME	1545	1545	1345	1345	1345	1345	1400	1420	1421	1421	1421	1421
JUN	.05	.08	.09	.10	.10	.10	.10	.10	.10	.10	.10	.10
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1625	1629	1625	1627	1631	1631	1631	1631	1631	1631	1631	1631
JUL	.14	.19	.20	.23	.24	.24	.24	.24	.24	.24	.24	.24
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	2225	2229	2230	2235	2240	2245	2245	2245	2245	2245	2245	2245
AUG	.06	.10	.13	.14	.16	.16	.16	.16	.16	.16	.16	.16
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1850	1855	1900	1905	1915	1930	1932	1932	1932	1932	1932	1932
SEP	.11	.12	.12	.12	.14	.16	.18	.23	.23	.26	.28	.41
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0555	0600	0605	0610	0620	0635	0650	0710	0730	0750	0820	0850
OCT	.08	.09	.12	.17	.17	.18	.18	.18	.21	.22	.22	.23
DATE	06	06	06	06	06	06	06	06	29	29	29	29
TIME	0040	0045	0050	0055	0105	0120	0135	0139	0645	0700	0700	0700
NOV	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
DEC	.03	.06	.09	.11	.13	.18	.22	.25	.26	.29	.30	.30
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0650	0655	0700	0705	0715	0730	0745	0805	0825	0845	0915	0920
YEAR	.14	.19	.20	.23	.24	.24	.24	.25	.26	.29	.30	.41
MONTH	07	07	07	07	07	07	07	12	12	12	12	09

YUMA, ARIZONA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1357	1357	1357	1357	1357	1437	1437	1437	1437	1437	1437	1437
FEB	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420	1420
MAR	.01	.02	.02	.02	.03	.03	.03	.03	.04	.04	.04	.04
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1103	1107	1108	1113	1124	1124	1124	1124	1124	1124	1124	1124
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.01	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0628	0628	0628	0629	0639	0639	0639	0639	0639	0639	0639	0639
JUN	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0927	0932	0937	0941	0941	0941	0941	0941	0941	0941	0941	0941
JUL	.03	.05	.06	.07	.08	.08	.08	.08	.08	.08	.08	.08
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	2142	2147	2149	2155	2200	2203	2203	2203	2203	2203	2203	2203
AUG	.36	.64	.85	.94	1.00	1.06	1.08	1.19	1.21	1.49	1.67	1.77
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1558	1603	1604	1607	1615	1615	[illegible]	[illegible]	[illegible]	1605	1615	1655
SEP	.05	.08	.10	.12	.14	.17	.19	.23	.24	.25	.29	.30
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0555	0600	0600	0605	0610	0625	0630	0645	0610	0630	0655	0725
OCT	.01	.01	.02	.02	.03	.04	.04	.05	.06	.07	.07	.09
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1005	1010	0815	1620	0817	0818	1607	1617	1630	1634	1707	1810
NOV	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
DEC	.02	.03	.03	.04	.05	.05	.08	.09	.09	.10	.10	.11
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0355	0400	0400	0405	0415	0419	0820	0840	0900	0920	0920	0920
YEAR	.36	.64	.85	.94	1.00	1.06	1.08	1.19	1.21	1.49	1.67	1.77
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

FORT SMITH, ARKANSAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.05	.06	.09	.12	.13	.14	.20	.24	.27	.34	.38
DATE	13	13	13	13	13	13	09	09	09	09	09	09
TIME	1738	1743	1748	1753	1800	1805	0600	0630	0600	0600	0600	0600
FEB	.33	.39	.41	.46	.51	.54	.63	.67	.68	.68	.68	.68
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0303	0309	0313	0318	0328	0343	0358	0418	0438	0458	0528	0558
MAR	.23	.45	.49	.52	.57	.71	.76	.77	.90	1.02	1.27	1.37
DATE	11	11	11	11	11	11	11	11	11	27	27	27
TIME	0833	0839	0840	0845	0855	0910	0925	0945	1005	0800	0830	0800
APR	.05	.08	.09	.11	.13	.16	.16	.16	.19	.21	.21	.22
DATE	15	15	15	15	15	15	15	15	20	20	20	17
TIME	0438	0443	0445	0450	0500	0515	0515	0515	1115	1135	1135	2359
MAY	.27	.30	.31	.32	.33	.36	.39	.46	.52	.57	.72	.80
DATE	22	22	22	22	22	22	20	20	20	20	20	20
TIME	1638	1643	1648	1653	1703	1718	0052	0112	0132	0152	0222	0252
JUN	.40	.60	.75	.90	1.20	1.75	1.96	2.15	2.35	2.55	2.61	2.69
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0620	0625	0630	0635	0645	0700	0700	0705	0725	0745	0815	0845
JUL	.11	.17	.23	.26	.32	.42	.49	.59	.67	.76	.80	.87
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0553	0558	0603	0608	0608	0623	0638	0638	0658	0700	0700	0700
AUG	.15	.22	.25	.30	.37	.39	.41	.49	.50	.52	.57	.57
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1218	1223	0533	0538	0548	0603	0618	0638	0658	0718	0748	0818
SEP	.45	.78	.93	1.08	1.38	1.61	1.75	1.80	1.82	1.85	1.88	1.90
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1425	1429	1430	1435	1440	1455	1509	1529	1549	1609	1639	1709
OCT	.08	.09	.10	.11	.13	.19	.19	.19	.19	.21	.30	.31
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0512	0512	0512	0512	0512	0515	0515	0535	0555	0700	0700	0710
NOV	.08	.12	.13	.14	.23	.25	.27	.30	.34	.37	.40	.92
DATE	08	08	08	08	08	08	08	01	01	01	01	08
TIME	1730	1730	1730	1730	1730	1730	1730	1120	1140	1200	1230	1800
DEC	.12	.19	.22	.27	.33	.38	.44	.51	.57	.64	.68	.70
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1500	1500	1500	1500	1500	1505	1500	1515	1500	1515	1505	1535
YEAR	.45	.78	.93	1.08	1.38	1.75	1.96	2.15	2.35	2.55	2.61	2.69
MONTH	09	09	09	09	09	06	06	06	06	06	06	06

LITTLE ROCK, ARKANSAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.09	.12	.14	.17	.20	.25	.34	.38	.42	.48	.50
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1650	1655	1700	1705	1715	1745	1805	1810	1830	1900	1930	2000
FEB	.10	.15	.20	.25	.26	.35	.40	.48	.51	.55	.61	.66
DATE	23	23	23	23	23	11	11	11	11	11	11	11
TIME	0810	0815	0820	0825	0835	2010	2010	2010	2010	2010	2010	2010
MAR	.12	.20	.25	.30	.37	.44	.56	.69	.74	.81	.88	.91
DATE	27	27	27	27	28	28	28	28	28	27	27	27
TIME	1505	1510	1515	1520	0000	0000	0000	0000	1015	1015	1015	1015
APR	.20	.29	.30	.30	.33	.34	.40	.44	.45	.50	.58	.60
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1545	1550	1555	1605	1610	1625	1640	1700	1720	1740	1810	1840
MAY	.07	.09	.10	.13	.15	.20	.25	.32	.38	.41	.54	.55
DATE	08	08	08	08	08	02	02	02	02	02	02	02
TIME	1705	1710	1715	1720	1730	1615	1630	1650	1710	1730	1800	1830
JUN	.17	.30	.33	.35	.36	.37	.38	.39	.39	.45	.47	.47
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0832	0837	0842	0847	0900	0915	0930	0950	1010	1030	1100	1130
JUL	.16	.31	.38	.44	.65	.95	1.01	1.06	1.07	1.10	1.10	1.10
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1159	1202	1205	1227	1230	1232	1235	1246	1259	1304	1304	1304
AUG	.20	.30	.35	.45	.65	.80	.88	.95	.99	1.00	1.02	1.04
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1800	1805	0735	0745	0808	0759	0810	0830	0850	0910	0940	1010
SEP	.50	.76	.79	.87	1.09	1.20	1.40	1.50	1.66	1.87	1.95	1.97
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0335	0340	0345	0350	0530	0545	0600	0620	0650	0708	0730	0730
OCT	.06	.09	.12	.17	.22	.28	.30	.38	.38	.38	.38	.38
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1630	1630	1630	1630	1630	1630	1630	1640	1700	1700	1700	1700
NOV	.23	.37	.45	.69	.86	1.05	1.08	1.12	1.13	1.15	1.22	1.23
DATE	20	20	20	20	20	20	20	20	20	21	21	21
TIME	2210	2231	2239	2245	2245	2300	2305	2325	2345	0005	0035	0100
DEC	.07	.12	.13	.14	.16	.19	.21	.25	.28	.29	.36	.39
DATE	08	08	08	08	13	13	13	13	13	13	13	13
TIME	1720	1725	1730	1735	0930	0945	1000	1020	1040	1100	1130	1200
YEAR	.50	.76	.79	.87	1.09	1.20	1.40	1.50	1.66	1.87	1.95	1.97
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

BAKERSFIELD, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.10	.13	.20	.24	.29	.32	.40	.43	.44	.44
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1935	1930	1930	1935	1950	2000	2017	2015	2010	2023	2055	2125
FEB	.02	.02	.02	.02	.02	.02	.02	.03	.03	.03	.03	.03
DATE	08	08	08	08	08	08	08	23	23	23	23	23
TIME	1845	1845	1845	1845	1845	1845	1845	1402	1402	1522	1552	1722
MAR	.02	.04	.05	.07	.10	.14	.18	.22	.27	.32	.38	.46
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0958	1000	1000	1010	0902	0902	0902	0902	0912	1011	1030	1038
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.02	.03	.04	.05	.06	.07	.09	.10	.11	.13	.16	.18
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0040	0045	0046	0059	0107	0110	0130	0105	0147	0143	0146	0144
JUN	.02	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04
DATE	09	08	08	08	08	08	08	08	08	08	08	08
TIME	0445	1647	1652	1700	1700	1700	1700	1700	1700	1700	1700	1700
JUL	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1052	1057	1110	1110	1110	1110	1110	1110	1110	1110	1110	1110
AUG	.05	.08	.11	.14	.22	.31	.38	.47	.60	.66	.76	.82
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0948	0948	1120	1120	1120	1120	1121	1121	1127	1121	1200	1230
SEP	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	.02	.02	.03	.04	.04	.05	.06	.08	.08	.08	.08	.08
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0910	0915	0843	0843	0843	0910	0930	0930	0930	0940	0940	0940
DEC	.03	.06	.09	.11	.14	.19	.25	.31	.34	.34	.34	.34
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0400	0400	0700	0705	0715	0730	0745	0745	0745	0745	0745	0745
YEAR	.05	.08	.11	.14	.22	.31	.38	.47	.60	.66	.76	.82
MONTH	08+	08	08	08	08	08	08	08	08	08	08	08

BISHOP, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.05	.08	.09	.11	.12	.14	.18	.20	.25	.31	.33
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1855	1855	1855	1855	1900	1900	1900	1920	2125	2030	2100	2125
FEB	.01	.02	.03	.04	.04	.05	.06	.07	.09	.10	.10	.11
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1430	1430	1435	1435	1440	1455	1510	1525	1555	1555	1555	1555
MAR	T	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02
DATE		30	30	30	30	30	30	30	30	30	30	30
TIME		0730	0730	0730	0755	0755	0755	0755	0755	0755	0755	0755
APR	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1323	1324	1325	1324	1325	1335	1335	1335	1335	1335	1335	1335
MAY	.03	.05	.06	.07	.10	.15	.18	.20	.23	.26	.29	.39
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1547	1758	1758	1759	1730	1730	1715	1730	1730	1717	1700	1610
JUN	.03	.04	.06	.07	.07	.11	.11	.12	.13	.15	.18	.21
DATE	30	30	30	30	30	30	30	30	09	09	09	09
TIME	1520	1520	1520	1525	1535	1550	1605	1630	0130	0215	0230	0245
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	.02	.03	.04	.04	.07	.09	.12	.14	.16	.17	.18	.20
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1435	1440	1445	1450	1500	1515	1530	1500	1515	1535	1610	1630
SEP	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02	.03	.04
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0940	0940	0950	0950	0950	1015	1025	1025	1025	1025	1215	1235
DEC	.05	.09	.12	.14	.17	.23	.27	.32	.36	.41	.45	.48
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1940	1945	1945	1950	1950	1750	1800	1820	1850	1850	1850	1925
YEAR	.06	.09	.12	.14	.17	.23	.27	.32	.36	.41	.45	.48
MONTH	12	12	12	12	12	12	12	12	12	12	12	12

BLUE CANYON, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.09	.13	.16	.21	.31	.39	.47	.55	.64	.74	.86
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1350	1420
FEB	.06	.09	.11	.13	.17	.25	.33	.41	.52	.60	.70	.77
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2025	2030	2035	1940	0730	0730	0730	0730	0730	0730	0730	0730
MAR	.04	.08	.09	.11	.14	.20	.24	.26	.30	.37	.45	.53
DATE	12	12	23	23	23	09	09	09	09	09	09	09
TIME	0405	0405	0522	0522	0532	0705	0705	0730	0820	0820	0820	0820
APR	.11	.13	.13	.13	.13	.13	.13	.21	.21	.22	.26	.31
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1611	1616	1616	1616	1616	1616	1616	1623	1623	1708	1738	1808
MAY	.06	.09	.09	.11	.14	.15	.19	.21	.21	.22	.27	.31
DATE	03	03	03	10	03	10	03	03	03	03	09	09
TIME	1453	1438	1443	0940	1457	0247	1527	1547	1552	1728	0250	0250
JUN	T	.01	.01	.02	.02	.02	.03	.04	.04	.04	.04	.04
DATE		19	19	19	19	19	19	19	19	19	19	19
TIME		1454	1454	1420	1420	1420	1434	1508	1515	1515	1515	1515
JUL	.04	.04	.04	.04	.04	.05	.05	.05	.06	.06	.06	.06
DATE	01	01+	01+	01+	01+	01	01	01	01	01	01	01
TIME	2123	2128	2133	2138	2148	2130	2145	2205	2225	2230	2230	2230
AUG	.11	.13	.17	.22	.26	.31	.34	.36	.41	.48	.50	.59
DATE	25	25	11	25	25	25	25	25	25	25	25	25
TIME	2307	2317	2009	1949	2022	2037	2052	2058	2058	2058	2058	2252
SEP	.06	.10	.10	.11	.12	.16	.19	.21	.25	.27	.27	.28
DATE	28	28	28	28	28	28	28	28	29	29	29+	29+
TIME	1720	1726	1731	2350	2355	2355	2355	2355	0005	0025	0055	0055
OCT	.04	.04	.04	.04	.05	.06	.07	.07	.09	.11	.12	.16
DATE	27	27	27	29+	29+	29	29	29	29	29	29	29
TIME	0153	0158	0203	0252	0252	0045	0045	0045	0200	0200	0200	0200
NOV	.05	.09	.11	.13	.20	.29	.40	.52	.65	.76	.93	1.07
DATE	21+	21+	21+	21+	21	21	21	21	21	21	21	21
TIME	1033	1033	1033	1845	1735	1750	1805	1825	1845	1905	1935	2005
DEC	.13	.20	.23	.25	.28	.35	.40	.52	.63	.77	.95	1.13
DATE	11	11	11	11	11	14	14+	14+	14+	14+	14	14
TIME	1540	1540	1540	1545	1555	2245	2245	2245	2245	2245	2245	2245
YEAR	.13	.20	.23	.25	.28	.35	.40	.52	.65	.77	.95	1.13
MONTH	12	12	12	12	12	12	12+	12+	11	12	12	12

EUREKA, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.10	.14	.15	.16	.17	.19	.20	.20	.20	.20	.22	.26
DATE	04	04	04	04	04	04	04	04	04	04	02	02
TIME	0058	0101	0106	0111	0121	0136	0151	0211	0231	0251	0929	0959
FEB	.07	.09	.11	.12	.16	.23	.27	.32	.38	.40	.45	.46
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0221	0226	0225	0230	0240	0255	0310	0330	0347	0407	0412	0442
MAR	.07	.10	.12	.13	.17	.22	.28	.38	.38	.39	.43	.47
DATE	08	08	08	08	08	08	08	08	09	09	23	23
TIME	2358	2358	2358	2358	2358	2358	2358	2358	0017	0022	0456	0501
APR	.04	.08	.10	.11	.14	.16	.17	.17	.17	.17	.20	.22
DATE	25	25	25	25	30	30	30	30	30	30	30	30
TIME	0739	0747	0742	0746	1936	1947	1947	1947	1947	2058	2130	2200
MAY	.06	.06	.08	.10	.13	.17	.21	.23	.25	.30	.35	.39
DATE	03	03	11	11	11	11	11	11	11	11	11	11
TIME	0845	0845	0145	0144	0154	0209	0224	0244	0304	0324	0354	0424
JUN	.01	.01	.01	.01	.01	.01	.01	.01	.02	.02	.02	.03
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0154	0154	0154	0154	0154	0154	0154	0154	0027	0027	0027	0154
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	.02	.02	.03	.04	.05	.05	.05	.05	.05	.06	.06	.06
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1101	1101	1101	1108	1117	1117	1117	1117	1117	1159	1159	1159
SEP	.10	.17	.22	.28	.37	.44	.54	.66	.79	.88	.99	1.30
DATE	18	18	18	18	18	18	18	18	18	19	18	18
TIME	2106	2107	2114	2119	2126	2359	2348	2359	2359	0010	2327	2359
OCT	.04	.06	.09	.10	.14	.18	.23	.30	.36	.42	.51	.59
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0712	0711	0716	0715	0725	0743	0758	0821	0841	0838	0831	0858
NOV	.08	.13	.16	.20	.26	.32	.38	.43	.51	.56	.64	.68
DATE	21	21	21	21	21	21	21	04	04	04	04	04
TIME	1836	1837	1844	1846	1844	1858	1908	1635	1656	1656	1656	1656
DEC	.12	.17	M	M	.51	.56	.61	.67	.71	.72	.74	.76
DATE	22	22			21	21	21	21	21	21	21	14
TIME	1932	1932			0900	0900	0900	0900	0900	0900	0944	0336
YEAR	.12	.17	.22	.28	.51	.56	.61	.67	.79	.88	.99	1.30
MONTH	12	12+	09	09	12	12	12	12	09	09	09	09

FRESNO, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.18	.26	.29	.30	.31	.31	.32	.33	.34	.35	.36	.37
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	2058	2103	2112	2113	2113	2128	2143	2203	2224	2244	2316	2305
FEB	.02	.03	.03	.04	.05	.05	.06	.07	.07	.07	.07	.07
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1352	1357	1402	1407	1353	1408	1415	1408	1415	1415	1415	1415
MAR	.14	.19	.22	.25	.26	.26	.27	.30	.32	.32	.32	.35
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1542	1547	1552	1556	1600	1615	1630	1650	1710	1730	1800	1835
APR	.02	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	2349	2354	2359	2359	2359	2359	2359	2359	2359	2359	2359	2359
MAY	.02	.04	.05	.07	.09	.13	.14	.15	.16	.19	.23	.27
DATE	11	11	11	11	11	11	11	11	11	11	11	12
TIME	2122	2124	1804	1812	1822	1837	1848	1908	2338	2344	2351	0030
JUN	.01	.01	.01	.01	.01	.02	.02	.02	.02	.03	.03	.04
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0215	0215	0215	0215	0215	0250	0300	0334	0354	0400	0445	0500
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
SEP	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
OCT	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0453	0453	0453	0453	0453	0453	0453	0453	0453	0453	0453	0453
NOV	.02	.03	.05	.06	.09	.12	.14	.18	.18	.19	.20	.22
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0555	0600	0605	0610	0610	0613	0613	0613	0626	0640	0738	0746
DEC	.16	.22	.25	.29	.40	.45	.49	.52	.54	.57	.62	.65
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1520	1530	1535	1540	1550	1605	1620	1640	1700	1720	1750	1820
YEAR	.18	.26	.29	.30	.40	.45	.49	.52	.54	.57	.62	.65
MONTH	01	01	01	01	12	12	12	12	12	12	12	12

LONG BEACH, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.08	.12	.15	.16	.19	.20	.22	.22	.22	.24	.24	.29
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0128	0133	0138	0143	0153	0208	0223	0223	0223	0148	0216	0216
FEB	.03	.05	.06	.06	.10	.10	.10	.12	.12	.12	.12	.12
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0950	0950	0952	1000	1007	1007	1007	1007	1007	1007	1007	1007
MAR	.23	.33	.34	.36	.37	.37	.37	.42	.47	.51	.55	.55
DATE	16	16	16	16	16	16	16	25	25	25	25	25
TIME	1813	1813	1813	1813	1813	1813	1813	0033	0058	0112	0130	0130
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.07	.11	.16	.20	.27	.37	.48	.66	.75	.84	1.00	1.13
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0650	0655	0700	0705	0715	0730	0745	0805	0805	0805	0805	0805
JUN	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
AUG	.03	.05	.07	.09	.14	.18	.25	.33	.40	.47	.61	.72
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0520	0525	0530	0535	0545	0600	0615	0635	0655	0715	0745	0815
SEP	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0014	0014	0014	0014	0014	0014	0014	0014	0014	0014	0014	0014
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
DEC	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
YEAR	.23	.33	.34	.36	.37	.37	.48	.66	.75	.84	1.00	1.13
MONTH	03	03	03	03	03	03+	05	05	05	05	05	05

LOS ANGELES, CALIFORNIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.12	.15	.17	.19	.22	.28	.34	.38	.44	.47	.52	.53
DATE	07	07	07	07	07	05	05	05	05	05	06	06
TIME	1256	1256	1256	1300	1310	2108	2108	2115	2108	2145	1745	1815
FEB	.02	.03	.03	.04	.06	.08	.08	.09	.09	.11	.13	.13
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1030	1030	1033	1035	1035	1035	1035	1100	1100	1100	1100	1100
MAR	.05	.06	.10	.12	.16	.23	.29	.36	.42	.46	.49	.52
DATE	16	16	16	16	16	16	16	16	16	25	25	25
TIME	1745	1745	0855	0855	0855	0855	0855	0905	0945	0050	0120	0125
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.09	.14	.16	.16	.16	.19	.28	.35	.40	.50	.56	.63
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1448	1453	1458	1458	1458	1458	0905	0925	0945	1005	1035	1105
JUN	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
AUG	.05	.09	.10	.13	.17	.23	.29	.38	.46	.54	.58	.64
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0720	0725	0755	0800	0810	0825	0840	0900	0920	0940	1000	1000
SEP	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	.02	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1245	1250	1255	1300	1310	1325	1340	1400	1402	1402	1402	1402
DEC	.10	.15	.19	.22	.23	.25	.34	.45	.51	.61	.72	.81
DATE	28	28	28	28	28	28	26	26	26	26	26	26
TIME	0115	0649	0650	0655	0705	0720	1500	1518	1518	1518	1518	1533
YEAR	.12	.15	.19	.22	.23	.28	.34	.45	.51	.61	.72	.81
MONTH	01	12+	12	12	12	01	12+	12	12	12	12	12

MAXIMUM SHORT DURATION PRECIPITATION

MOUNT SHASTA, CALIFORNIA

JAN	.03	.05	.07	.09	.10	.12	.13	.16	.19	.22	.28	.33
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1235	1235	1235	1235	1245	1245	1245	1300	1300	1300	1300	1300
FEB	.04	.06	.08	.10	.13	.15	.21	.25	.30	.35	.40	.41
DATE	08	08	08	08	08	08	21	21	21	21	21	21
TIME	0318	0330	0330	0335	0335	0345	0650	0650	0650	0650	0650	0650
MAR	.02	.03	.04	.05	.06	.08	.10	.12	.14	.16	.19	.21
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0222	0222	0222	0222	0222	0222	0225	0249	0309	0325	0355	0425
APR	.05	.07	.09	.10	.12	.14	.16	.19	.23	.24	.25	.25
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	0610	0640	0640	0640	0645	0745	0800	0730	0800	0800	0825	0825
MAY	.04	.05	.05	.05	.05	.05	.06	.06	.07	.07	.10	.10
DATE	26	26	26	26	26	26	26	26	09	09	09	09
TIME	1415	1420	1425	1430	1430	1430	1430	1430	1000	1000	1000	1000
JUN	.03	.05	.07	.08	.08	.09	.10	.10	.10	.10	.10	.10
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1030	1030	1030	1045	1045	1045	1700	1720	1800	1800	1800	1800
JUL	.14	.20	.25	.26	.26	.26	.26	.26	.26	.26	.26	.26
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1152	1205	1205	1205	1205	1205	1205	1205	1205	1205	1205	1205
AUG	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955
SEP	.09	.11	.12	.13	.14	.16	.23	.29	.30	.43	.51	.60
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0505	0505	0505	0505	0505	0505	0505	0505	0505	0505	0505	0505
OCT	.03	.04	.06	.07	.08	.09	.12	.14	.18	.20	.24	.30
DATE	29	29	29	29	29	28	28	28	28	28	28	28
TIME	1519	1520	1525	1525	1525	1745	1810	1820	1840	1900	1900	1900
NOV	.02	.03	.05	.06	.08	.11	.14	.19	.23	.27	.35	.41
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1725	1730	1735	1740	1740	1815	1900	1820	1910	1930	1930	2000
DEC	.12	.19	.20	.24	.30	.34	.46	.50	.56	.63	.78	.93
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2245	2245	2250	2250	2250	2250	2300	2300	2300	2310	2305	2305
YEAR	.14	.27	.25	.26	.30	.34	.46	.50	.56	.63	.78	.93
MONTH	07	07	07	07	12	12	12	12	12	12	12	12

OAKLAND, CALIFORNIA

JAN	.06	.11	.11	.12	.16	.22	.26	.30	.32	.34	.36	.37
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0412	0417	0420	0420	0430	0418	0425	0445	0500	0505	0525	0530
FEB	.06	.10	.12	.14	.17	.17	.19	.19	.19	.20	.20	.21
DATE	08	08	08	08	08	08	08	08	08	08	21	21
TIME	1234	1239	1235	1234	1243	1243	1243	1243	1243	1243	0812	0847
MAR	.06	.08	.07	.08	.11	.12	.16	.22	.27	.30	.38	.43
DATE	14	24	24	24	24	24	15	15	15	15	15	15
TIME	0343	1116	1117	1127	1129	1129	1800	1800	1802	1810	1812	1810
APR	.02	.03	.02	.03	.03	.03	.03	.03	.03	.03	.03	.03
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0110	0110	0110	0110	0110	0110	0110	0110	0110	0110	0110	0110
MAY	.08	.11	.13	.15	.19	.25	.26	.27	.28	.28	.29	.29
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1013	1008	1010	1016	1016	1016	1016	1630	1640	1640	1720	1720
JUN	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUL	.02	.03	.03	.04	.04	.05	.05	.06	.06	.06	.07	.07
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0755	0755	0755	0803	0803	0802	0822	0855	0855	0855	0855	0855
AUG	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
SEP	.05	.10	.14	.18	.22	.26	.28	.29	.33	.43	.45	.48
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0542	0542	0546	0546	0546	0558	0610	0616	0616	0605	0615	0630
OCT	.03	.04	.06	.07	.09	.10	.11	.12	.13	.14	.15	.16
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1930	1930	1933	1938	1938	1938	1938	1938	1938	1938	2022	2022
NOV	.09	.12	.14	.16	.19	.22	.28	.37	.42	.44	.45	.46
DATE	04	04	04	04	04	04	05	05	05	05	05	05
TIME	2324	2326	2329	2333	2342	2358	0013	0032	0052	0112	0123	0203
DEC	.11	.14	.18	.21	.29	.43	.47	.52	.56	.60	.67	.73
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2138	2139	2115	2119	2138	2140	[illegible]	[illegible]	2215	2215	2245	2200
YEAR	.11	.14	.18	.21	.29	.43	.47	.52	.56	.60	.67	.73
MONTH	12	12	12	12	12	12	12	12	12	12	12	12

RED BLUFF, CALIFORNIA

JAN	.06	.09	.11	.13	.18	.24	.32	.38	.40	.50	.55	.74
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1230	1234	1241	1247	1255	1255	1319	1349	1305	1305	1305	1305
FEB	.03	.05	.07	.09	.10	.12	.25	.29	.32	.34	.37	.43
DATE	08	08	08	08	08	08	08	08	08	08	08	21
TIME	1133	1133	1133	1133	1133	1133	1133	1136	1140	1200	1232	0631
MAR	.05	.07	.08	.09	.10	.13	.17	.20	.22	.25	.32	.35
DATE	09	09	09	09	15	15	15	15	15	15	15	15
TIME	0924	0924	0931	0932	1815	1823	1837	1843	1843	1843	1843	[illegible]
APR	.07	.12	.12	.14	.14	.20	.24	.31	.38	.44	.55	.58
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1840	1842	1842	1842	1842	1910	1930	1932	1947	2013	2031	2031
MAY	.11	.15	.18	.20	.24	.28	.29	.31	.34	.40	.48	.58
DATE	03	03	03	03	03	03	03	22	11	11	11	11
TIME	2159	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2323	0816	0834	0834	[illegible]
JUN	.10	.20	.37	.40	.43	.44	.44	.45	.45	.47	.55	.65
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2148	2153	2154	2156	2210	2218	2218	2240	2249	2249	2249	2249
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
SEP	.10	.10	.11	.12	.13	.13	.14	.16	.17	.19	.20	.25
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1419	[illegible]	1443	0421	0421	0421	[illegible]	1356
OCT	T	T	.01	.01	.02	.03	.04	.04	.06	.06	.06	.06
DATE			28	28	28	28	28	28	28	28	28	28
TIME			1310	1318	1318	1320	1326	1349	1349	1349	1349	1349
NOV	.03	.05	.06	.09	.12	.18	.24	.33	.35	.49	.53	.63
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	0030	0049	[illegible]	[illegible]	[illegible]	[illegible]	0230	0300	[illegible]	[illegible]
DEC	.28	.34	.38	.40	.42	.44	.44	.45	.45	.46	.55	.63
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2244	2244	2245	2248	2252	2252	2252	2252	2252	2252	2252	2252
YEAR	.28	.34	.38	.40	.43	.44	.44	.45	.49	.50	.55	.74
MONTH	12	12	12	12+	06	12+	12+	12+	01	01	01	01

SACRAMENTO, CALIFORNIA

JAN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
FEB	.09	.11	.13	.14	.15	.18	.19	.25	.30	.35	.38	.38
DATE	21	21	21	21	21	20	20	20	20	20	20	20
TIME	1222	1227	1231	1233	1240	1459	1541	1534	1554	1605	1605	1605
MAR	.02	.04	.05	.06	.09	.12	.15	.20	.24	.28	.33	.38
DATE	09	16	16	16	16	16	16	16	16	16	16	16
TIME	0852	2227	2227	2232	2242	2242	2279	2240	0242	0313	0328	0342
APR	.02	.04	.05	.06	.08	.11	.13	.15	.17	.20	.22	.23
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	2054	2057	2053	2059	[illegible]	2154	[illegible]	2131	[illegible]	2212	2230	2243
MAY	.04	.05	.05	.07	.10	.13	.16	.18	.23	.26	.32	.32
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1301	1304	1304	0734	0749	0749	0749	0749	0749	0726	0749	0749
JUN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
SEP	.06	.09	.11	[illegible]	.13	.17	.19	.27	.32	.38	.43	.47
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0716	0717	0717	0717	0717	0717	0717	0717	0717	0717	0717	0717
OCT	.01	.02	.02	.02	.03	.03	.04	.04	.04	.04	.05	.07
DATE	28	19	27	19	26	26	26	26	26	26	26	26
TIME	2258	[illegible]	[illegible]	[illegible]	2312	2310	2333	2352	2352	2352	2352	2352
NOV	.04	.06	.09	.11	.16	.22	.27	.31	.33	.37	.41	.46
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2045	2044	2046	2041	2032	2017	2017	2009	1943	1928	1859	1831
DEC	.13	.21	.22	.24	.33	.38	.41	.48	.51	.55	.62	.68
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2131	2137	2136	2139	2230	2233	2233	2233	2233	2210	2143	2112
YEAR	.13	.21	.22	.24	.33	.38	.41	.48	.51	.55	.62	.68
MONTH	12	12	12	12	12	12	12	12	12	12	12	12

SACRAMENTO, CALIFORNIA

JAN	.09	.12	.13	.16	.19	.25▶	.32	.39	.44▶	.47	.51▶	.97
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0546	0551	0552	0552	0552	0552	0552	0557	0557	0603	0630	0720
FEB	.04	.07	.11	.11	.15	.18	.22	.25	.29	.32	.38	.40
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1424	1427	1434	1434	1440	1444	1445	1456	1454	1508	1548	1555
MAR	.03	.05	.07	.08	.09	.13	.13	.17	.21	.25	.30	.34
DATE	09	09	09	09	09	09	16	16	16	16	16	16
TIME	0703	0703	0706	0706	0710	0714	0212	0232	0310	0324	0324	0324
APR	.02	.04	.05	.07	.09	.12	.14	.18	.21	.23	.27	.27
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	2049	2053	2056	2101	2109	2104	2109	2129	2205	2205	2222	2222
MAY	.05	.05	.06	.07	.09	.12	.14	.16	.19	.21	.26	.26
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0750	0750	0745	0745	0754	0754	0754	0754	0754	0754	0754	0754
JUN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
JUL	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1406	1406	1406	1406	1406	1400	1406	1406	1400	1406	1406	1406
AUG	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
SEP	.04	.05	.06	.07	.11	.16	.19	.24	.28	.31	.34	.37
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0602	0604	0604	0604	0604	0604	0634	0645	0645	0645	0645	0719
OCT	.03	.04	.06	.07	.08	.13	.13	.14	.16	.17	.18	.19
DATE	26	26	26	26	26	26	26	26	26	26	27	27
TIME	2223	2229	2225	2228	2239	2256	2256	2326	2337	2350	0042	0056
NOV	.06	.08	.10	.12	.17	.22	.26	.29	.31	.33	.37	.42
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2033	2039	2041	2041	2049	2059	2119	2124	2139	2124	2124	2130
DEC	.06	.10	.13	.18▶	.24	.30▶	.32	.36	.41	.45	.49	.52
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2256	2258	2256	2309	2311	2325	2339	2321	2325	2325	2329	2321
YEAR	.09	.17	.13	.18▶	.24	.30▶	.32	.39	.44▶	.47	.51▶	.97
MONTH	01	01	12+	12	12	12	12+	01	01	01	01	01

SANDBERG, CALIFORNIA

JAN	.05	.08	.06	.11	.12	.12	.15	.23	.27	.30	.33	.42
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1950	2000	2005	2011	2029	2045	2100	2119	2139	2210	1130	1200
FEB	T	.01	.02	.02	.03	.03	.05	.06	.06	.06	.06	.06
DATE		09	09	09	09	09	09	09	09	09	09	09
TIME		0230	0235	0240	0250	0305	0315	0339	0350	0350	0350	0350
MAR	.04	.06	.07	.09	.13	.18	.20	.25	.28	.32	.40	.43
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0250	0255	0250	0252	0252	0252	0252	0252	0255	0335	0335	0420
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.05	.08	.10	.12	.16	.24	.32	.43	.53	.62	.77	.87
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1110	1127	1128	1132	1140	1115	1115	1115	1115	1115	1200	1215
JUN	T	T	T	.01	.01	.01	.02	.02	.02	.02	.02	.02
DATE				06	06	06	06	06	06	06	06	06
TIME				1255	1305	1155	1305	1305	1305	1305	1305	1305
JUL	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
AUG	.05	.10	.13	.19	.22	.29	.39	.47	.57	.68	.75	.85
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0635	0640	0645	0645	0700	0715	0730	0745	0810	0830	0900	0930
SEP	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
OCT	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1358	1358	1358	1358	1358	1358	1358	1358	1358	1358	1358	1358
NOV	.02	.04	.06	.06	.05	.07	.08	.09	.11	.12	.13	.15
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1030	1034	1038	1043	1050	1105	1120	1140	1200	0505	0536	[illegible]
DEC	.15▶	.25▶	.28	.29▶	.35	.43▶	.50	.60	.75▶	.95	1.12▶	1.20
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1735	1740	1745	1750	1800	1815	1650	1710	1758	1800	1820	1800
YEAR	.15▶	.25▶	.28	.29▶	.35	.43▶	.50	.60	.75▶	.95	1.12▶	1.20
MONTH	12	12	12	12	12	12	12	12	12	12	12	12

SAN DIEGO, CALIFORNIA

JAN	.08	.12	.14	.16	.23	.31	.40	.48	.52	.57	.63	.67
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	[illegible]	2004	2005	2007	2100	2108	2130	2132	2137	2140	2139	2205
FEB	.01	.02	.02	.02	.02	.03	.03	.03	.03	.03	.03	.03
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1522	1522	1522	1522	1522	1529	1535	1535	1535	1535	1535	1535
MAR	.12	.12	.12	.14	.14	.15	.16	.17	.19	.19	.21	.21
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0125	0149	0200	0220	0256	0326
APR	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0410	0410	0410	0410
MAY	.13	.21	.25	.27	.33	.44	.48	.50	.59	.62	.66	.71
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1956	[illegible]	[illegible]	2023	2053	2123
JUN	.01	.01	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0826	0838
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.41	.48	.53	.60	.63	.64	.98
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2327	2340	2359	0030	0100
SEP	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
OCT	.04	.06	.05	.06	.08	.09	.10	.11	.12	.12	.14	.16
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	2140	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2135	2154	2205	2225	2322	2323
NOV	[illegible]	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	.12	.17	.21	.22	.23	.23	.23	.23	.23	.23	.23	.23
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1427	1434	1436	1441	1449	1449	1449	1449	1449	1449	1651	1710
YEAR	.13	.21	.25	.27	.33	.41	.48	.53	.60	.63	.68	.71
MONTH	05	05	05	05	05	05	05	05	05	05	05	05

SAN FRANCISCO, CALIFORNIA AP

JAN	.20	.26	.32	.45	.54	.71	.84	.97	1.17	1.17	1.28	1.32
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1007	1008	1011	1011	1007	1011	1016	1036	1011	1630	1700	1730
FEB	.06	.08	.07	.09	.11	.13	.19	.25	.26	.28	.29	.31
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2119	2119	0703	0734	0711	0717	0716	0712	0718	0718	0718	0807
MAR	.06	.08	.08	.09	.11	.14	.17	.21	.24	.26	.30	.33
DATE	24	24	24	24	24	15	15	15	15	15	15	15
TIME	0748	0749	0751	0753	0755	1249	1300	1313	1335	1401	1426	1457
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	.03	.03	.04	.04	.05	.08	.10	.12	.14	.15	.17	.17
DATE	18	18	18	18	18	08	08	08	08	08	08	08
TIME	0650	0650	0650	[illegible]	1450	1535	1545	1558	1621	1632	1650	1650
JUN	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUL	.05	.08	.10	.11	.16	.23	.26	.29	.31	.33	.34	.35
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0743	0744	0746	0746	0746	0746	0746	0803	0810	0824	0834	0834
AUG	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
SEP	.07	.08	.10	.12	.15	.18	.25	.31	.35	.40	.41	.42
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	[illegible]	0404	0410	0424	0425	0441	0457	0504	0504	0514	0541	0547
OCT	.04	.05	.03	.05	.06	.05	.07	.08	.08	.08	.09	.10
DATE	27	28	28	28	28	28	28	28	28	28	28	28
TIME	1723	1727	1723	1743	1735	1759	1805	1823	1823	1824	1939	1940
NOV	.06	.09	.11	.13	.16	.21	.25	.29	.33	.38	.46	.47
DATE	04	04	04	04	04	04	05	05	21	21	21	21
TIME	2310	2319	2315	2314	2328	2342	0013	0018	2218	2220	2310	2316
DEC	.06	.09	.09	.11	.14	.16	.18	.22	.26	.29	.34	.37
DATE	17	17	17	17	17	17	22	17	22	22	22	22
TIME	1212	1213	1422	1422	1222	1224	1910	0904	1910	1934	1945	2049
YEAR	.20	.26	.32	.45	.54	.71	.84	.97	1.17	1.17	1.28	1.32
MONTH	01	01	01	01	01	01	01	01	01	01	01	01

SAN FRANCISCO, CALIFORNIA

JAN	.09	.14	.18	.22	.26	.39	.40	.44	.49	.57	.68	.70
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1550	1559	1555	1558	1603	1610	1633	1629	1648	1618	1640	1656

[illegible]

YEAR	.09	.14	.18	.22	.26	.39	.40	.44	.49	.57	.68	.70
MONTH	01	01	01	01	01	01	01	01	01	01	01	01

MAXIMUM SHORT DURATION PRECIPITATION

SANTA MARIA, CALIFORNIA

Maximum precipitation in inches (5 to 180 minutes)

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.08	.09	.10	.12	.19	.27	.27	.30	.38	.40	.40	.40
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	2345	2350	0458	0503	0447	0500	0500	0515	0355	0615	0640	0640
FEB	.01	.01	.02	.02	.02	.02	.03	.04	.05	.06	.06	.06
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0620	0620	0630	0630	0630	0640	0650	0730	0800	0830	0830	0830
MAR	.05	.09	.13	.16	.19	.26	.33	.40	.46	.50	.58	.65
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1542	1542	1542	1542	1542	1542	1542	1542	1542	1542	1542	1542
APR	.02	.02	.02	.02	.03	.03	.03	.04	.04	.04	.04	.04
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0938	0938	0938	0938	1005	1005	1015	1005	1005	1005	1005	1005
MAY	.06	.09	.11	.13	.17	.20	.22	.26	.28	.29	.31	.35
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2012	2017	2022	2027	2037	2052	2107	2119	2135	2155	2225	2255
JUN	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	T	T	T	T	T	.01	.01	.01	.01	.01	.01	.01
DATE						31	31	31	31	31	31	31
TIME						0600	0615	0635	0655	0715	0745	0815
SEP	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0400	0400	0400	0400	0400	0400	0400	0400	0400	0400	0400	0400
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	.09	.09	.10	.11	.13	.13	.13	.13	.13	.13	.13	.13
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0640	0640	0645	0645	0655	0700	0700	0700	0700	0700	0700	0700
DEC	▸ .20	.28	.29	.40	.54	.60	.90	.92	.93	.94	.94	.94
DATE	27	27	27	28	28	28	28	28	28	28	28	28
TIME	2237	2242	2247	0235	0240	0305	0315	0330	0355	0355	0430	0455
YEAR	▸ .20	.28	.29	.40	.54	.60	.90	.92	.93	.94	.94	.94
MONTH	12	12	12	12	12	12	12	12	12	12	12	12

DENVER, COLORADO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.01	.01	.02	.02	.02	.03	.04	.04	.05	.06	.07
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2240	2240	2240	2240	2240	2240	2240	2355	2355	2355	2355	2355
FEB	.01	.01	.02	.02	.03	.04	.06	.07	.09	.11	.12	.13
DATE	13	13	13	13	13	13	13	13	13	14	14	14
TIME	2100	2100	2130	2130	2140	2140	2300	2320	2355	0020	0005	0035
MAR	.02	.04	.05	.07	.10	.15	.20	.27	.34	.40	.48	.53
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1540	1545	1550	1600	1610	1625	1640	1700	1720	1730	1740	1800
APR	.03	.05	.06	.08	.08	.12	.15	.16	.22	.28	.33	.33
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1735	1740	1615	1620	1630	1645	1530	1550	1610	1630	1700	1700
MAY	.07	.08	.08	.09	.09	.09	.10	.10	.10	.10	.10	.10
DATE	07	07	07	07	07	07	20	20	20	20	20	20
TIME	1817	1820	1820	1833	1833	1833	1432	1432	1432	1432	1432	1432
JUN	.11	.14	.16	.17	.17	.17	.17	.18	.18	.19	.25	.28
DATE	19	19	19	19	19	19	19	05	05	06	06	06
TIME	1720	1725	1725	1730	1745	1800	1815	2315	2335	0000	0025	0055
JUL	.26	.34	.40	.42	.45	.47	.48	.52	.54	.56	.56	.58
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1537	1542	1547	1552	1602	1617	1632	1652	1712	1732	1802	1917
AUG	.06	.10	.14	.14	.14	.15	.18	.22	.23	.24	.25	.25
DATE	22	22	22	22	22	16	16	16	16	16	16	16
TIME	1745	1750	1755	1800	1810	0214	0216	0232	0252	0315	0315	0315
SEP	.01	.02	.03	.04	.04	.04	.05	.05	.06	.07	.08	.08
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1745	1750	1750	1750	1755	1810	1825	1752	1752	1800	1840	1840
OCT	.08	.10	.12	.14	.16	.19	.21	.26	.28	.30	.35	.35
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1945	1945	1945	1945	1945	1945	1945	2020	2040	2100	2150	2200
NOV	.03	.06	.08	.10	.14	.16	.21	.22	.24	.24	.24	.24
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1955	2000	2000	2000	2010	2015	2030	2050	2110	2130	2200	2230
DEC	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02	.02	.02
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0852	0852	0852	0852	0852	0852	0852	0852	0852	0852	0852	0852
YEAR	.26	.34	.40	.42	.45	.47	.48	.52	.54	.56	.56	.58
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

BRIDGEPORT, CONNECTICUT

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.08	.12	.15	.20	.25	.35	.47	.55	.63	.77	.90
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0805	0810	0815	0820	0830	0845	0900	0920	0940	1000	1030	1045
FEB	.06	.12	.14	.19	.25	.30	.35	.43	.48	.53	.57	.63
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0020	0028	0030	0030	0030	0030	0030	0030	0030	0030	0030	0030
MAR	.08	.15	.22	.27	.43	.57	.80	1.03	1.28	1.45	1.76	2.03
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1500	1500	1500	1500	1500	1515	1600	1600	1600	1600	1600	1600
APR	.06	.08	.11	.13	.20	.28	.37	.45	.50	.55	.59	.65
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1955	2000	2005	2045	2045	2055	2100	2059	2115	2135	2145	2145
MAY	.09	.16	.23	.23	.23	.23	.27	.33	.36	.38	.43	.43
DATE	06	06	06	06	06	06	05	05	05	05	05	05
TIME	1330	1330	1330	1330	1330	1330	0433	0445	0445	0500	0500	0500
JUN	.11	.21	.24	.28	.38	.48	.51	.51	.60	.60	.60	.60
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0139	0144	0149	0154	0204	0219	0234	0234	0314	0314	0314	0314
JUL	.07	.09	.11	.12	.12	.20	.20	.20	.20	.20	.20	.20
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1807	1812	1817	1827	1830	1847	1850	1850	1850	1850	1850	1850
AUG	.25	.50	.65	.74	.75	1.10	1.12	1.13	1.17	1.18	1.20	1.20
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1135	1135	1140	1145	1200	1210	1225	1245	1300	1325	1350	1420
SEP	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
OCT	.25	.38	.50	.55	.62	.63	.64	.64	.64	.64	.64	.64
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1700	1705	1710	1715	1720	1725	1738	1738	1738	1738	1738	1738
NOV	.08	.10	.12	.17	.23	.27	.37	.45	.59	.74	.79	.95
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1737	1742	1747	0758	0808	0808	0808	0808	0808	0808	0808	0830
DEC	.05	.08	.10	.12	.14	.17	.20	.29	.34	.36	.40	.43
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1815	1815	1815	1815	1815	1815	1815	1830	1830	1900	1930	1930
YEAR	.25	.50	.65	.74	.75	1.10	1.12	1.13	1.28	1.45	1.76	2.03
MONTH	10▸	08	08	08	08	08	08	08	03	03	03	03

ALAMOSA, COLORADO

Maximum precipitation in inches (5 to 180 minutes)

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.01	.01	.01	.01	.02	.02	.02	.03	.03	.04	.05
DATE		23	23	23	23	23	23	23	23	23	23	23
TIME		0125	0125	0125	0125	0230	0245	0305	0255	0315	0345	0345
FEB	.01	.02	.03	.03	.04	.04	.05	.06	.06	.06	.07	.07
DATE	25	25	25	25	25	25	22	22	22	22	25	25
TIME	0857	0859	0902	0902	0915	0930	1031	1048	1110	1130	1107	1145
MAR	.01	.02	.02	.03	.03	.04	.05	.06	.06	.07	.07	.07
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1642	1646	1646	1646	1646	1701	1715	1715	1730	1800	1800	1800
APR	.03	.05	.06	.08	.12	.15	.20	.27	.34	.38	.46	.48
DATE	20	10	20	20	20	20	20	20	20	20	20	20
TIME	0920	2309	1015	1020	1016	1017	1103	1106	1130	1115	1146	1215
MAY	.03	.06	.07	.09	.10	.10	.11	.12	.12	.13	.15	.15
DATE	14	13	13	13	13	13	13	13	13	12	12	12
TIME	0520	2332	2337	2335	2345	2345	2338	2345	2345	2017	2045	2045
JUN	.14	.24	.31	.35	.49	.53	.55	.55	.55	.55	.55	.55
DATE	25	26	26	26	26	26	26	26	26	26	26	26
TIME	1451	1459	1501	1501	1516	1530	1540	1540	1340	1540	1540	1540
JUL	.25	.43	.52	.60	.63	.63	.64	.66	.66	.66	.66	.67
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1646	1649	1646	1647	1700	1715	1730	1750	1810	1830	1900	1930
AUG	.09	.09	.10	.10	.17	.17	.17	.17	.17	.17	.17	.18
DATE	16	16	16	16	20	20	20	20	20	20	20	16
TIME	1456	1501	1506	1511	1420	1445	1445	1445	1445	1445	1445	1815
SEP	.14	.21	.22	.22	.24	.24	.24	.24	.24	.24	.24	.24
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1513	1518	1523	1528	1538	1553	1608	1628	1648	1708	1738	1808
OCT	.01	.02	.03	.03	.05	.07	.08	.08	.08	.08	.08	.08
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0450	0459	0500	0519	0520	0520	0523	0543	0550	0550	0550	0550
NOV	.04	.07	.08	.09	.13	.17	.20	.24	.24	.25	.29	.37
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0445	0445	0446	0446	0446	0445	0501	0523	0544	0601	0630	0700
DEC	.02	.03	.03	.04	.06	.07	.07	.08	.09	.10	.10	.10
DATE	16	16	16	16	16	16	16	31	31	31	31	31
TIME	0152	0156	0158	0202	0157	0207	0210	0850	0911	0931	0940	0940
YEAR	.25	.43	.52	.60	.63	.63	.64	.66	.66	.66	.66	.67
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

GRAND JUNCTION, COLORADO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.01	.01	.02	.02	.03	.03	.04	.04	.05	.06	.06
DATE		05	05	05	05	05	05	05	05	05	05	05
TIME		1500	1500	1510	1515	1815	1815	1830	1840	1830	1830	1840
FEB	.01	.01	.01	.02	.02	.02	.03	.03	.03	.04	.04	.04
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0130	0130	0145	0447	0447	0447	0500	0500	0500	0515	0515	0515
MAR	.02	.04	.04	.05	.07	.11	.13	.14	.14	.14	.14	.14
DATE	25	25	25	25	01	01	01	01	01	01	01	01
TIME	1850	1850	1852	1459	2207	2220	2235	2240	2300	2300	2330	2359
APR	.05	.08	.08	.09	.10	.11	.11	.11	.11	.11	.11	.11
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1007	1012	1017	1022	1032	1047	1052	1101	1101	1101	1101	1101
MAY	.04	.06	.08	.09	.10	.12	.13	.13	.13	.13	.14	.16
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1653	1658	1658	1702	1705	1715	1730	1730	1730	1730	1900	1930
JUN	.02	.03	.03	.03	.04	.04	.04	.04	.04	.04	.04	.04
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1200	1200	1200	1200	1200	1200	1200	1215	1215	1215	1215	1215
JUL	.08	.12	.13	.13	.14	.15	.18	.20	.24	.32	.37	.38
DATE	21	21	21	21	21	21	21	21	21	21	21	22
TIME	2106	2111	2116	2121	2131	2146	2322	2345	2241	2301	2331	0001
AUG	.04	.07	.08	.09	.13	.15	.16	.17	.22	.23	.27	.31
DATE	26	26	26	26	26	26	27	27	27	27	27	27
TIME	2335	2337	2337	2337	2350	2358	0013	0028	0058	0113	0143	0213
SEP	.04	.05	.06	.07	.08	.09	.09	.10	.14	.17	.17	.21
DATE	17	11	11	11	11	11	11	11	11	11	11	11
TIME	1933	1406	1406	1406	1417	1430	1445	1505	1530	1555	1615	1645
OCT	.05	.06	.08	.11	.16	.20	.25	.29	.31	.31	.31	.31
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1855	1900	1905	1910	1920	1935	1950	2010	2030	2040	2040	2040
NOV	.03	.04	.05	.07	.10	.13	.16	.18	.20	.22	.23	.26
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1518	1722	1722	1722	1730	1738	1738	1755	1818	1830	1830	1813
DEC	.03	.04	.04	.05	.07	.08	.10	.12	.12	.12	.12	.14
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1916	1921	1926	1931	1941	1956	2011	2031	2051	2111	2141	2035
YEAR	.08	.12	.13	.13	.16	.20	.25	.29	.31	.32	.37	.38
MONTH	07	07	07	07	10	10	10	10	10	07	07	07

HARTFORD, CONNECTICUT

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.07	.08	.09	.11	.15	.19	.25	.28	.30	.43	.52
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1045	1049	1045	1045	1045	1045	1100	1100	1100	1100	1100	1100
FEB	.05	.10	.14	.19	.28	.35	.56	.64	.83	.88	.89	.99
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0015	0019	0015	0040	0040	0040	0100	0120	0120	0120	0120	0120
MAR	.10	.14	.18	.19	.26	.32	.41	.48	.54	.68	.82	.88
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1920	1920	1920	1925	1923	1945	1925	1930	1930	1923	1930	1930
APR	.05	.07	.08	.10	.15	.22	.29	.37	.46	.52	.61	.65
DATE	05	05	05	05	24	24	24	24	24	24	24	24
TIME	0348	0348	0348	0348	2200	2200	2200	2230	2230	2230	2245	2300
MAY	.13	.18	.20	.22	.32	.35	.42	.51	.57	.62	.71	.79
DATE	18	18	18	18	18	09	09	09	09	09	09	09
TIME	2258	2300	2300	2305	2317	0630	0640	0705	0725	0745	0800	0800
JUN	.14	.25	.26	.27	.35	.45	.52	.53	.56	.63	.63	.66
DATE	01	01	01	01	01	18	18	18	18	18	18	18
TIME	1520	1529	1529	1433	1529	2045	2045	2045	2045	2114	2114	2114
JUL	.17	.24	.27	.29	.42	.50	.53	.53	.53	.53	.54	.69
DATE	13	13	13	25	13	13	13	13	13	13	25	25
TIME	1920	1930	1930	1920	1945	2000	2030	2030	2030	2030	1230	1300
AUG	.25	.49	.55	.59	.65	.66	.67	.68	.68	.69	.69	.69
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1714	1719	1724	1729	1730	1745	1800	1820	1840	1900	1930	2000
SEP	.32	.36	.40	.44	.62	.76	.83	.86	1.15	1.27	1.30	1.47
DATE	26	13	26	26	19	19	19	19	19	19	19	26
TIME	1002	1153	1110	1115	0010	0020	0035	0040	0010	0030	0100	1235
OCT	.08	.16	.23	.25	.33	.35	.39	.42	.42	.42	.45	.54
DATE	09	09	09	09	09	09	09	09	09	09	09	01
TIME	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235	1935
NOV	.05	.08	.10	.12	.14	.19	.23	.28	.35	.41	.50	.57
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0602	0602	0602	0602	0602	0602	0602	0643	0643	0700	0700	0700
DEC	.06	.11	.15	.19	.23	.26	.32	.38	.46	.50	.67	.77
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330
YEAR	.32	.45	.55	.59	.65	.76	.83	.86	1.15	1.27	1.30	1.47
MONTH	09	08	08	08	08	09	09	09	09	09	09	09

COLORADO SPRINGS, COLORADO

Maximum precipitation in inches (5 to 180 minutes)

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.01	.01	.01	.02	.02	.03	.03	.04	.05	.06	.07
DATE		04	04	04	04	04	04	04	04	22	22	23
TIME		1959	2000	2005	2015	2015	2020	2020	2040	2315	2345	0015
FEB	.01	.01	.02	.02	.02	.03	.04	.05	.06	.06	.08	.08
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0135	0240	0055	0100	0240	0125	0141	0200	0217	0240	0240	0240
MAR	.01	.02	.03	.03	.06	.06	.08	.10	.12	.15	.19	.23
DATE	10	10	10	10	11	11	11	11	11	11	11	11
TIME	2110	2110	2115	2120	0030	0045	0100	0120	0140	0200	0230	0300
APR	.12	.22	.23	.26	.29	.30	.30	.33	.34	.34	.36	.37
DATE	11	11	11	11	11	11	11	11	11	11	15	15
TIME	1348	1355	1357	1400	1401	1410	1410	1440	1440	1440	0745	0800
MAY	.10	.16	.17	.20	.20	.20	.21	.21	.21	.21	.21	.25
DATE	14	29	29	29	29	29	29	29	29	29	29	14
TIME	0910	1817	1817	1822	1832	1847	1823	1843	1903	1923	1953	1201
JUN	.34	.60	.82	1.00	1.48	1.70	1.80	1.86	1.90	2.14	2.23	2.49
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1845	1850	1850	1850	1850	1905	1905	1915	1915	1915	1932	2002
JUL	.30	.46	.52	.56	.59	.65	.66	.66	.66	.66	.66	.66
DATE	27	27	27	27	27	05	05	05	05	05	05	05
TIME	1308	1318	1328	1328	1328	1258	1258	1258	1258	1258	1258	1258
AUG	.46▸	.79▸	1.01	1.35▸	2.00	2.78▸	2.78	2.78	2.78▸	2.78	2.78▸	2.78
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1731	1735	1739	1745	1750	1800	1800	1800	1800	1800	1800	1800
SEP	.11	.13	.13	.14	.14	.14	.14	.14	.14	.14	.14	.15
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1355	1400	1405	1410	1420	1435	1450	1510	1530	1550	1620	1650
OCT	.02	.04	.05	.05	.06	.08	.08	.08	.08	.10	.11	.11
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1753	1758	1803	1808	1818	1833	1848	1908	1928	1948	2018	2048
NOV	.05	.08	.12	.14	.17	.22	.26	.34	.37	.40	.45	.46
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0232	0237	0242	0247	0257	0313	0328	0348	0405	0427	0430	0459
DEC	.01	.01	.02	.02	.03	.04	.05	.06	.06	.06	.07	.07
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1037	1040	1049	1100	1100	1104	1119	1140	1159	1219	1246	1246
YEAR	.46▸	.79▸	1.01	1.35▸	2.00	2.78▸	2.78	2.78	2.78▸	2.78	2.78▸	2.78
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

PUEBLO, COLORADO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	T	T	.01	.01	.01	.01	.01	.02	.02	.02	.02
DATE				08	08	08	08	08	08	08	08	08
TIME				0635	0645	0700	0715	0735	0755	0815	0845	0915
FEB	.01	.02	.02	.03	.04	.05	.06	.07	.09	.11	.13	.15
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0444	0444	0444	0444	0444	0444	0444	0444	0444	0444	0444	0444
MAR	.01	.01	.01	.02	.02	.03	.03	.04	.04	.04	.05	.05
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	2035	2040	2045	2050	2100	2115	2130	2150	2210	2230	2300	2330
APR	.11	.19	.20	.23	.27	.29	.30	.36	.40	.41	.41	.43
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1758	1803	1808	1813	1823	1838	1853	1816	1836	1856	1926	1956
MAY	.10	.17	.18	.20	.22	.25	.29	.32	.33	.33	.33	.33
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1413	1418	1423	1428	1438	1453	1508	1528	1534	1534	1534	1534
JUN	.04	.06	.06	.07	.07	.08	.08	.08	.08	.08	.08	.08
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1400	1400	1400	1400	1400	1400	1415	1415	1415	1415	1415	1415
JUL	.22	.38	.46	.56	.76	.82	.95	1.20	1.37	1.40	1.41	1.41
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	2100	2100	2100	2105	2114	2129	2144	2204	2220	2235	2305	2335
AUG	.57	.84	.92	.96	.98	.98	.98	.98	.98	.98	.98	.98
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1805	1810	1815	1815	1825	1837	1837	1837	1837	1837	1837	1837
SEP	.02	.03	.03	.04	.04	.05	.05	.05	.06	.06	.06	.06
DATE	12	17	12	12	12	12	12	12	12	12	12	12
TIME	1234	1239	1244	1249	1259	1314	1329	1349	1409	1420	1420	1420
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	T	.01	.02	.02	.03	.04	.04	.05	.05	.05	.06	.06
DATE		08	08	08	08	08	08	08	08	08	08	08
TIME		0140	0145	0150	0150	0205	0220	0240	0255	0255	0255	0255
DEC	T	T	T	T	T	.01	.01	.01	.01	.01	.01	.01
DATE						09▸	09▸	09▸	09▸	09▸	09▸	09▸
TIME						1245	1300	1320	1340	1400	1418	1418
YEAR	.57	.84	.92	.96	.98	.98	.98	1.20	1.37	1.40	1.41	1.41
MONTH	08	08	08	08	08	08	08	07	07	07	07	07

WILMINGTON, DELAWARE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.06	.07	.09	.13	.19	.25	.30	.36	.41	.48	.53
DATE	28	10	10	10	10	10	10	10	10	10	10	10
TIME	1844	0605	0605	0605	0610	0630	0645	0700	0730	0735	0745	0800
FEB	.14	.27	.32	.36	.39	.43	.49	.52	.55	.56	.59	.71
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1714	1714	1720	1725	1735	1750	1805	1807	1830	1847	1920	2005
MAR	.18	.27	.30	.36	.46	.63	.79	.93	1.13	1.20	1.29	1.44
DATE	13	13	13	13	22	22	22	22	22	22	22	22
TIME	1901	1906	1911	1916	1245	1245	1245	1310	1310	1310	1310	1310
APR	.09	.11	.13	.19	.23	.27	.36	.44	.53	.62	.71	.82
DATE	24	24	24	24	24	24	02	02	02	02	02	02
TIME	1948	1948	1948	1948	1948	1948	1230	1245	1305	1325	1355	1425
MAY	.25	.39	.42	.44	.46	.46	.46	.46	.46	.46	.46	.46
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1519	1524	1529	1534	1544	1559	1619	1649	1659	1719	1749	1819
JUN	.26	.52	.73	.85	1.12	1.40	1.42	1.42	1.42	1.42	1.42	1.48
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1810	1810	1815	1820	1820	1830	1845	1905	1925	1945	2015	2045
JUL	.17	.22	.26	.28	.37	.45	.53	.55	.58	.60	.60	.60
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1634	1639	1644	1649	1659	1700	1703	1723	1743	1803	1833	1903
AUG	.26	.42	.44	.45	.48	.83	.86	.87	1.00	1.16	1.19	1.19
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0027	0032	0037	0042	0032	0032	0047	0107	0032	0043	0100	0100
SEP	.13	.16	.19	.21	.24	.27	.27	.28	.30	.33	.35	.37
DATE	25	25	25	25	25	25	25	25	09	09	09	09
TIME	0320	0320	0325	0330	0335	0350	0400	0425	1710	1730	1745	1800
OCT	.07	.09	.11	.13	.17	.27	.32	.40	.45	.48	.53	.57
DATE	14	14	09	09	09	09	09	09	09	09	09	09
TIME	1335	1340	1115	1115	1130	1145	1200	1155	1200	1200	1200	1215
NOV	.12	.16	.17	.17	.22	.27	.34	.40	.45	.51	.60	.66
DATE	17	17	17	17	07	06	06	06	06	07	07	07
TIME	1605	1610	1615	1620	0145	2230	2230	2230	2255	0245	0315	0330
DEC	.09	.15	.17	.18	.21	.24	.31	.39	.49	.52	.63	.70
DATE	21	21	21	21	21	18	18	18	18	18	18	18
TIME	0335	0340	0345	0350	0345	1200	1215	1210	1230	1250	1320	1350
YEAR	.26	.52	.73	.85	1.12	1.40	1.42	1.42	1.42	1.42	1.42	1.48
MONTH	08▸	06	06	06	06	06	06	06	06	06	06	06

MAXIMUM SHORT DURATION PRECIPITATION

APALACHICOLA, FLORIDA

DAYTONA BEACH, FLORIDA

KEY WEST, FLORIDA

LAKELAND, FLORIDA

MIAMI, FLORIDA

ORLANDO, FLORIDA

TALLAHASSEE, FLORIDA

TAMPA, FLORIDA

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

WEST PALM BEACH, FLORIDA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.24	.39	.43	[illegible]	.64	.74	.93	1.09	1.22	1.30	1.55	1.74
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0737	0740	0740	0744	0749	0745	0810	0817	0750	0810	0930	0910
FEB	.23	.27	.28	.28	.28	.28	.28	.28	.33	.35	.35	.35
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	0955	0955	0955	0955	0955	0955	0955	0955	0955	1017	1035
MAR	[illegible]	[illegible]	[illegible]	[illegible]	.22	.22	[illegible]	.22	.22	.22	.22	.22
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	10
TIME	1547	1550	1550	1545	1550	1550	1545	1550	1550	1550	1550	1605
APR	[illegible]	.30	.32	[illegible]	.42	.42	.54	.69	.72	.74	.75	.76
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	[illegible]	[illegible]	0215	[illegible]	0222	0237	0252	0312	0332	0352	0422	0315
MAY	.42	.80	1.05	[illegible]	[illegible]	2.35	[illegible]	2.87	2.90	2.90	2.90	2.97
DATE	[illegible]	[illegible]	26	26	26	26	26	26	26	26	26	09
TIME	[illegible]	[illegible]	[illegible]	1502	[illegible]	[illegible]	[illegible]	[illegible]	1015	1615	1615	1105
JUN	[illegible]	[illegible]	.85	[illegible]	[illegible]	[illegible]	1.25	1.34	1.40	1.40	1.40	1.40
DATE	[illegible]	[illegible]	[illegible]	[illegible]	11	11	[illegible]	[illegible]	[illegible]	[illegible]	11	11
TIME	1405	1410	1415	[illegible]	1425	1428	1415	1419	1445	1455	1455	1455
JUL	.34	[illegible]	.54	.57	[illegible]	.60	.60	.60	.60	.60	.60	.60
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	[illegible]	1605	1606	1407	1615	1630	1637	1637	1637	1637	1637	1637
AUG	.35	.54	.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.09	1.09	1.09	1.09
DATE	[illegible]	05	05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	05	05	05	05
TIME	1415	1420	1422	[illegible]	1417	1427	1437	1457	1507	1530	1530	1530
SEP	[illegible]	.67	[illegible]	[illegible]	[illegible]	1.98	[illegible]	3.08	3.24	3.46	3.52	3.94
DATE	[illegible]	[illegible]	02	02	02	02	02	02	02	02	02	02
TIME	1915	[illegible]	1932	1932	1932	1932	1932	1032	1932	1905	1840	1810
OCT	.32	.40	.43	.52	.65	.75	[illegible]	.82	.83	.83	.85	.90
DATE	[illegible]	06	06	06	06	06	06	06	[illegible]	06	06	06
TIME	[illegible]	2023	2028	[illegible]	[illegible]	[illegible]	[illegible]	2105	2125	2145	2215	2245
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.43	2.62	2.71
DATE	[illegible]	16	23	23	23	23	23	23	23	23	23	23
TIME	[illegible]	[illegible]	2332	2328	2317	2315	[illegible]	[illegible]	2238	2210	2205	2150
DEC	[illegible]	.55	[illegible]	[illegible]	[illegible]	1.27	[illegible]	1.49	[illegible]	1.65	1.70	1.75
DATE	[illegible]	09	[illegible]	[illegible]	[illegible]	09	[illegible]	09	17	17	17	17
TIME	1632	1637	1642	1647	1657	1712	1727	1747	0402	0540	0610	0640
YEAR	.42	.80	1.05	[illegible]	1.90	2.35	2.79	3.08	3.24	3.46	3.52	3.94
MONTH	05	05	05	05	05	05	[illegible]	09	09	09	09	09

ATHENS, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.12	.20	.23	.25	.32	.35	.37	.40	.43	.48	.53	.56
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1955	1955	1955	2000	2013	2025	2040	2100	2120	2030	2030	2100
FEB	.28	.37	.40	.45	.55	.58	.62	.68	.73	.83	.98	1.04
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0207	0212	0217	0222	0232	0247	0302	0322	0342	0402	0432	0502
MAR	.10	.15	.16	.19	.22	.28	.33	.40	.44	.48	.55	.65
DATE	29	29	29	29	29	04	04	21	21	21	21	21
TIME	0332	0350	0055	0100	0110	0850	0910	1705	1705	1705	1735	1825
APR	.20	.27	.30	.31	.33	.37	.45	.54	.63	.77	.94	1.05
DATE	03	03	03	03	03	14	05	05	05	05	05	05
TIME	0533	0538	0543	0548	0553	2313	0055	0115	0008	0028	0058	0128
MAY	.05	.07	.07	.09	.12	.14	.19	.24	.27	.29	.33	.33
DATE	20	20	20	26	26	26	26	26	26	26	26	26
TIME	1651	1457	1459	1748	1800	1813	1823	1846	1845	1906	1930	1958
JUN	.27	.33	.42	.47	.53	.54	.54	.54	.55	.55	.55	.55
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1444	1447	1452	1457	1502	1522	1537	1557	1617	1637	1707	1737
JUL	.31	.57	.72	.82	1.05	1.09	1.10	1.13	1.15	1.17	1.18	1.22
DATE	13	13	13	13	13	13	13	26	26	26	26	26
TIME	1645	1648	1048	1650	1700	1712	1730	2252	2312	2330	2340	2340
AUG	.45	.85	1.00	[illegible]	1.43	1.65	1.67	1.88	1.90	1.91	1.94	2.46
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1125	1128	1130	[illegible]	1134	1149	1204	1224	1244	1304	1334	1404
SEP	.39	.43	.45	.55	.72	.87	.92	.96	.99	1.00	1.00	1.00
DATE	27	27	04	04	04	04	04	04	04	04	04	04
TIME	1555	1600	1610	[illegible]	1625	1628	1645	1701	1718	1740	1740	1740
OCT	.35	.69	.87	1.04	1.22	1.37	1.52	1.65	1.76	1.90	1.98	2.12
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1850	1850	1850	1855	1855	1855	1905	1900	1920	1912	1922	2105
NOV	.35	.59	[illegible]	.68	.83	.96	1.18	1.32	1.35	1.37	1.45	1.47
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1628	1628	1628	1628	1628	1628	1632	1652	1712	1732	1802	1832
DEC	.07	.11	.12	.15	.17	.21	.27	.34	.37	.38	.47	.52
DATE	24	24	24	24	24	25	25	25	25	25	25	25
TIME	2358	2359	2358	2358	2358	0020	0035	0055	0115	0135	0205	0235
YEAR	.45	.85	1.00	[illegible]	1.43	1.65	1.67	1.88	1.90	1.91	1.98	2.46
MONTH	08	08	08	08	08	08	08	08	08	08	10	08

ATLANTA, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.07	.09	.11	.13	.15	.18	.21	.25	.30	.37	.41	.46
DATE	06	06	06	06	09	09	09	09	09	09	09	09
TIME	1805	1813	1813	1813	1217	1232	1247	1309	1329	1347	1418	1453
FEB	.23	.39	.42	.46	.51	.57	.62	.67	.80	.97	1.17	1.19
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0043	0048	0056	0058	0108	0123	0138	0156	0214	0233	0303	0333
MAR	.17	.29	.30	.33	.35	.37	.39	.42	.46	.47	.58	.63
DATE	20	20	20	20	20	20	20	20	20	20	29	30
TIME	0223	0223	0223	0223	0223	0229	0233	0233	0237	0257	2330	0037
APR	.14	.27	.29	.31	.34	.38	.43	.56	.60	.61	.78	.87
DATE	04	04	04	04	04	04	04	04	04	04	04	05
TIME	2114	2115	2120	2125	2135	2150	2205	2217	2243	2305	2332	0005
MAY	.19	.35	.42	.55	.64	.65	.65	.65	.66	.67	.67	.67
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1344	1349	1353	1355	1359	1401	1410	1410	1503	1523	1543	1550
JUN	.29	.54	.75	.86	.89	.89	.89	.91	.98	1.01	1.06	1.17
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2324	2329	2334	2334	2344	2350	2350	2342	2342	2342	2336	2330
JUL	.18	.37	.43	.56	.70	.95	1.05	1.23	1.41	1.50	1.54	1.69
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0757	0807	0812	0812	0812	0832	0845	0900	0920	0940	0953	0940
AUG	.23	.34	.49	.57	.71	.78	.88	.93	.98	1.01	1.07	1.18
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	2220	2220	2223	2234	2234	2249	0915	0920	0920	0935	2305	2305
SEP	.24	.41	.60	.77	.98	1.18	1.18	1.18	1.18	1.19	1.20	1.20
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1819	1814	1819	1824	1834	1840	1840	1848	1900	1900	1900	1900
OCT	.31	.43	.52	.64	.68	.84	1.00	1.21	1.24	1.28	1.34	1.44
DATE	09	09	09	25	09	19	25	25	25	25	25	25
TIME	0135	0140	0143	1642	0158	0213	1642	1652	1652	1652	1652	1652
NOV	.34	.64	.90	1.02	1.35	1.83	1.94	2.05	2.16	2.18	2.20	2.20
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0200	0203	0207	0212	0222	0237	0252	0312	0332	0335	0408	0408
DEC	.12	.17	.24	.26	.31	.39	.46	.50	.53	.55	.59	.61
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1220	1227	1222	1222	1232	1239	1232	1232	1240	1252	1252	1300
YEAR	.34	.64	.90	1.02	1.35	1.83	1.94	2.05	2.16	2.18	2.20	2.20
MONTH	11	11	11	11	11	11	11	11	11	11	11	11

AUGUSTA, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.33	.37	.48	.55	.56	.57	.62
DATE	[illegible]	09	[illegible]	[illegible]	[illegible]	09	[illegible]	[illegible]	[illegible]	10	10	10
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2315	2355	2345	[illegible]	0020	0045	0115	0145
FEB	.32	.43	[illegible]	[illegible]	.63	.67	.70	.73	.75	.83	.96	.99
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	[illegible]	[illegible]	[illegible]	1328	1328	1332	1333	1333	1333	1317	1352	1417
MAR	.35	[illegible]	.65	[illegible]	[illegible]	.91	[illegible]	1.21	1.45	1.45	[illegible]	1.57
DATE	[illegible]	[illegible]	[illegible]	[illegible]	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0136	0145	[illegible]	0204	[illegible]	0204	0206	0206
APR	[illegible]	[illegible]	[illegible]	[illegible]	.15	.21	.27	.31	.35	.40	.41	.43
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23	23	23	23	23	23	23
TIME	1348	[illegible]	[illegible]	[illegible]	[illegible]	1045	1045	1048	1121	1121	1121	1121
MAY	.35	.67	.88	.91	.93	.94	.95	.95	.95	.95	.95	1.04
DATE	[illegible]	[illegible]	22	[illegible]	[illegible]	22	22	22	22	22	22	22
TIME	1645	1650	[illegible]	[illegible]	[illegible]	1727	1730	1740	1740	1740	1740	1655
JUN	.44	.59	.61	.63	.63	.63	.63	.63	.63	.63	.63	.63
DATE	26	[illegible]	26	26	26	26	26	26	26	26	26	26
TIME	1815	1820	1825	1830	1830	1830	1830	1830	1830	1830	1830	1830
JUL	.55	.73	[illegible]	.93	.97	.99	1.02	1.03	1.04	1.04	1.05	1.06
DATE	22	[illegible]	22	22	22	22	22	22	22	22	22	22
TIME	1422	1427	[illegible]	[illegible]	1443	1458	[illegible]	1533	1553	1613	1643	1713
AUG	.55	[illegible]	1.25	1.33	[illegible]	1.55	1.65	1.72	1.75	1.75	1.75	1.75
DATE	[illegible]	26	26	26	26	26	26	26	26	26	26	26
TIME	[illegible]	[illegible]	[illegible]	1819	[illegible]	1840	1855	[illegible]	1935	1955	2010	2010
SEP	.33	.38	.45	[illegible]	[illegible]	.64	.65	[illegible]	.67	.67	.68	.68
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	16	16	16	16	16	16
TIME	[illegible]	1625	[illegible]	[illegible]	1630	1645	[illegible]	1920	1535	1600	1630	1640
OCT	.31	.42	.43	.44	.44	.47	.59	.68	.68	.69	.75	.77
DATE	[illegible]	02	02	02	[illegible]	25	25	25	25	25	25	25
TIME	0840	[illegible]	0848	[illegible]	0913	1914	1914	1928	1948	2008	2038	2108
NOV	.33	.34	.35	.37	.50	.67	.87	.94	.99	.99	1.00	1.11
DATE	22	22	22	[illegible]	04	04	04	04	04	04	05	05
TIME	2320	2325	2330	2335	[illegible]	1100	1110	1113	1115	1115	2359	2350
DEC	[illegible]	.19	.21	.22	.28	.35	.45	.48	.50	.55	.58	.60
DATE	30	30	30	30	[illegible]	05	05	05	05	[illegible]	05	05
TIME	2025	2030	2035	[illegible]	0630	0645	[illegible]	0720	0740	0800	0830	0900
YEAR	.55	1.00	1.25	1.33	[illegible]	1.55	1.65	1.72	1.75	1.75	1.75	1.75
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

COLUMBUS, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.08	.10	.12	.14	.24	.27	.36	.43	.49	.52	.65	.70
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1917	1920	1925	1930	1940	1945	1945	2000	2000	1945	2000	2000
FEB	.30	.39	.56	.60	.76	.85	.89	.95	1.06	1.10	1.10	1.10
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0057	0102	0107	0112	0122	0137	0152	0212	0232	0252	0322	0325
MAR	.25	[illegible]	.49	.72	.92	1.11	1.20	1.28	1.49	1.55	1.58	1.59
DATE	12	30	12	12	12	12	30	12	12	12	12	12
TIME	1640	1925	1640	1640	1640	1652	2005	1720	1740	1800	1830	1900
APR	.15	[illegible]	.20	.21	.25	.37	.49	.52	.69	.73	.74	.74
DATE	04	04	04	04	04	04	04	04	04	04	05	05
TIME	2210	2340	2340	2340	2305	2250	2340	2340	2340	2347	0018	0018
MAY	.54	.77	.87	1.19	1.28	1.28	1.28	1.38	1.38	1.38	1.68	1.69
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1517	1520	1520	1514	1528	1543	1558	1618	1638	1658	1728	1758
JUN	.28	.53	.66	.85	1.11	1.16	1.18	1.20	1.21	1.21	1.21	1.21
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0745	0748	0750	0755	0800	0810	0820	0845	0900	0915	0915	0915
JUL	[illegible]	.41	.51	.68	.76	.77	.78	.78	1.24	1.25	1.27	1.27
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0755	0800	0805	0810	0815	0830	0845	0900	0930	0945	0945	1015
AUG	.59	.87	1.00	1.25	1.54	2.00	2.39	2.42	2.80	3.68	4.09	4.19
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1135	1105	1105	1110	1135	1135	1145	1152	1135	1135	1145	1145
SEP	.33	.59	.70	.78	.78	.78	.78	.78	.78	.78	.78	.78
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	[illegible]	[illegible]	[illegible]	1923	1931	1932	1932	1932	1932	1932	1932	1932
OCT	.07	.11	.14	.18	.25	.32	.35	.36	.38	.42	.51	.58
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1125	1130	1135	1140	1150	1205	1220	1240	1245	1320	1350	1420
NOV	.25	.46	.52	.58	.86	1.07	1.21	1.39	1.60	1.78	2.02	2.05
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0443	0445	0450	0455	0505	0520	0535	0555	0520	0540	0608	0638
DEC	.20	.31	.40	.47	.53	.61	.72	.83	.90	.92	.93	.93
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0058	0102	0107	0110	0122	0135	0150	0209	0220	0210	0305	0305
YEAR	.59	.87	1.00	1.25	1.54	2.00	2.39	2.42	2.80	3.68	4.09	4.19
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

MACON, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.13	.16	.18	.20	.28	.37	.40	.44	.48	.55	.57	.65
DATE	09	09	09	09	09	09	09	09	09	09	09	10
TIME	2143	2147	2151	2158	2206	2200	2209	2240	2258	2327	2348	0002
FEB	.28	.42	.48	.54	.60	.67	.74	.79	.89	1.00	1.09	1.11
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0243	0247	0249	0254	0256	0305	0320	0340	0400	0420	0450	0520
MAR	.40	.48	.52	.54	.58	.60	.64	.79	.98	1.08	1.38	1.53
DATE	04	04	04	04	04	04	21	21	21	21	21	21
TIME	0844	0848	0849	0854	0904	0919	2128	2142	2130	2149	2128	2052
APR	.10	.15	.16	.17	.19	.20	.38	.39	.43	.55	.61	.62
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0011	0018	0210	0134	0144	0204	0212	0234	0252	0200	0236	0306
MAY	.31	.57	.70	.74	.74	.74	.74	.74	.74	.74	.74	.75
DATE	20	31	31	31	31	31	31	31	31	31	31	20
TIME	2024	1829	1832	1842	1842	1842	1842	1842	1842	1842	1842	2242
JUN	.21	.29	.34	.37	.39	.40	.41	.42	.42	.42	.43	.43
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2007	2010	2015	2020	2029	2044	2100	2120	2140	2200	2236	2236
JUL	.26	.34	.51	.63	.91	1.16	1.27	1.29	1.31	1.31	1.31	1.31
DATE	01	26	26	26	26	26	26	26	26	26	26	26
TIME	1644	1522	1524	1528	1523	1536	1551	1610	1628	1632	1702	1732
AUG	.18	.31	.40	.58	.80	.91	.91	.91	.91	.91	.91	.91
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1740	1745	1750	1745	1750	1820	1820	1840	1900	1920	1950	2020
SEP	.38	.59	.71	.80	.85	.86	.86	.86	.95	.96	.96	.96
DATE	26	26	1	10	26	26	26	26	26	26	26	26
TIME	1532	1536	1608	1612	1540	1543	1543	1543	1534	1554	1624	1654
OCT	.16	.26	.35	.42	.57	.68	.69	.83	.85	.87	.87	.99
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1707	1710	1715	1717	1730	1741	1757	1817	1830	1845	1845	1817
NOV	.19	.24	.28	.39	.50	.70	.83	1.02	1.27	1.33	1.37	1.39
DATE	30	04	04	05	04	04	04	04	04	04	04	04
TIME	1811	0903	0907	0135	0906	0943	0949	0931	0939	0939	0955	0955
DEC	.16	.24	.35	.42	.45	.50	.53	.57	.60	.66	.69	.70
DATE	18	25	25	25	25	25	25	25	25	25	25	25
TIME	0156	0225	0226	0228	0238	0252	0308	0328	0348	0408	0420	0450
YEAR	.40	.59	.71	.80	.91	1.16	1.27	1.29	1.31	1.33	1.38	1.53
MONTH	03	09	09	09	07	07	07	07	07	11	03	03

ROME, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.09	[illegible]	[illegible]	[illegible]	[illegible]	.24	.29	.40	[illegible]	.49	.59
DATE	[illegible]	09	09	09	[illegible]	09	[illegible]	[illegible]	09	09	09	09
TIME	[illegible]	[illegible]	1015	[illegible]	[illegible]	[illegible]	1600	1400	1400	1400	1400	1400
FEB	[illegible]	[illegible]	.23	.26	.33	.37	[illegible]	.43	.43	.47	.56	.59
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0235	0235	0240	0245	0255	0310	0325	0345	0400	0425	0452	0520
MAR	.22	.29	.32	.38	.45	.51	.57	.60	.87	.92	1.00	1.05
DATE	[illegible]	09	12	12	29	12	12	12	29	29	12	12
TIME	[illegible]	0755	1630	[illegible]	[illegible]	1645	[illegible]	1719	[illegible]	0930	1638	1700
APR	.95	1.07	1.35	[illegible]	1.37	1.49	1.50	2.25	2.26	2.40	2.60	2.74
DATE	03	30	03	03	03	04	04	04	04	04	04	04
TIME	[illegible]	[illegible]	[illegible]	1630	[illegible]	1650	1705	1745	1730	1800	1830	1905
MAY	[illegible]	[illegible]	.95	1.14	1.28	1.30	1.30	1.30	1.30	1.30	1.30	1.30
DATE	[illegible]	28	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	[illegible]	1845	[illegible]	[illegible]	1930	1930	1930	1930	1930	1930	1930
JUN	.13	.15	.15	.15	.15	.15	.18	.18	[illegible]	.21	.23	.23
DATE	30	30	30	30	30	30	08	18	18	18	18	18
TIME	[illegible]	1520	1520	1520	1520	1520	1925	[illegible]	[illegible]	1222	[illegible]	1325
JUL	.15	.19	[illegible]	[illegible]	.25	.25	.34	.42	[illegible]	.50	.50	.50
DATE	01	01	[illegible]	[illegible]	22	22	22	22	22	22	22	22
TIME	[illegible]	1849	[illegible]	[illegible]	1745	[illegible]	[illegible]	1830	[illegible]	1843	1925	1925
AUG	.48	.77	[illegible]	[illegible]	[illegible]	[illegible]	1.60	1.62	[illegible]	1.64	1.64	1.64
DATE	09	09	09	[illegible]	[illegible]	09	09	09	09	09	09	09
TIME	1403	1410	1415	1420	1430	1445	1430	1450	1510	1550	1550	1550
SEP	.12	.24	.32	[illegible]	.40	.60	[illegible]	[illegible]	.70	.70	.99	.99
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	[illegible]	[illegible]	[illegible]	0745	[illegible]	[illegible]	[illegible]	0615	0630	[illegible]	0800	0800
OCT	.32	[illegible]	[illegible]	[illegible]	[illegible]	.82	.95	[illegible]	1.24	[illegible]	[illegible]	1.40
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	[illegible]	[illegible]	1335	[illegible]	1415	[illegible]	1445	1509	1525	1550	1630
NOV	.14	.22	.35	[illegible]	.42	.62	[illegible]	.79	.88	.98	1.12	1.13
DATE	[illegible]	05	[illegible]	05	[illegible]	05	05	05	05	05	05	05
TIME	[illegible]	[illegible]	0100	[illegible]	0120	0135	0145	0200	[illegible]	0300	0313	0345
DEC	.16	.17	[illegible]	.24	.34	.35	.35	.36	.36	.39	.62	.65
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	2135	2140	2145	[illegible]	[illegible]	2153	[illegible]	[illegible]	2240	2140	[illegible]	2200
YEAR	.95	1.07	1.35	1.35	1.37	[illegible]	1.60	2.25	2.26	2.40	[illegible]	2.74
MONTH	04	04	04	04	04	04	08	04	04	04	04	04

SAVANNAH, GEORGIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.09	.11	.13	.18	.25	.32	.40	.48	.55	.64	.73
DATE	14	14	14	14	14	14	14	14	03	03	03	03
TIME	[illegible]	[illegible]	1054	1059	[illegible]	1123	1130	1138	1146	1140	1146	1146
FEB	.15	.21	.26	.28	.32	.40	.42	.45	.50	.54	.56	.56
DATE	19	27	27	27	27	27	27	27	27	27	27	24
TIME	2020	1424	1429	1430	1433	1458	1514	1532	1554	1610	1640	0850
MAR	.28	.41	.45	.47	.55	.61	.75	.86	.94	.97	.99	1.00
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	[illegible]	1634	1636	1636	1636	1636	1636	1636	1636	1646	1646	1716
APR	.23	.27	.28	.29	.30	.34	.40	.54	.64	.71	.75	.79
DATE	23	23	23	23	23	23	23	23	24	24	24	24
TIME	1133	1138	1141	1147	1151	2310	2328	2346	0005	0022	0052	0104
MAY	.08	.12	.14	.16	.19	.21	.23	.25	.27	.28	.28	.28
DATE	23	24	24	24	24	24	24	24	24	24	24	24
TIME	[illegible]	0613	0613	0613	0613	0613	0613	0620	0631	0631	0631	0631
JUN	.19	.46	.50	.53	.56	.56	.56	.56	.56	.56	.56	.56
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1610	1615	1624	1624	1624	1624	1624	1624	1624	1624
JUL	.34	.67	.79	.89	1.14	1.17	1.17	1.17	1.17	1.17	1.17	1.17
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1516	1516	1516	[illegible]	1532	1537	1537	1537	1537	1537	1537	1537
AUG	.36	.64	.91	1.19	1.64	1.67	1.90	2.25	2.25	2.27	2.76	2.88
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1322	1324	1328	1330	1336	1336	1336	1336	1336	1336	1336	1406
SEP	.37	.71	[illegible]	1.02	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	[illegible]	2009	2010	2015	[illegible]	2018	2018	2018	2018	2018	2018	2018
OCT	.18	.37	.42	.43	.43	.44	.50	.58	.58	.58	.59	.63
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	2118	2120	2124	2124	2124	2205	2214	2214	2214	2214	2214
NOV	.09	.14	.17	.20	.28	.34	.37	.38	.43	.47	.51	.60
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	2139	2139	2144	2150	2153	2208	2223	2243	2211	2230	2300	2158
DEC	.27	.41	.58	.70	.72	.75	.78	.78	[illegible]	.80	.85	.92
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0333	0337	[illegible]	[illegible]	0356	0411	0426	0446	0506	0526	0556	0626
YEAR	.37	.71	.91	1.19	1.64	1.67	1.90	2.25	2.25	2.27	2.76	2.88
MONTH	09	09	08	08	08	08	08	08	08	08	08	08

BOISE, IDAHO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.03	.04	.05	.07	.09	.11	.13	.15	.16	.18
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0740	0740	0740	0740	0740	0740	0740	0740	0740	0740	0740	0740
FEB	.04	.05	.06	.06	.06	.07	.07	.08	.09	.09	.11	.12
DATE	21	21	21	21	21	21	21	21	24	24	24	24
TIME	1420	1425	1430	1430	1430	1450	1450	1529	0135	0135	0135	0135
MAR	.07	.11	.11	.12	.18	.24	.28	.30	.32	.33	.35	.35
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0950	0950	0950	0955	1005	1020	1035	1055	1115	1135	1205	1235
APR	.01	.02	.03	.03	.04	.05	.06	.07	.07	.07	.07	.08
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1217	1222	1227	1232	1242	1257	1250	1255	1315	1335	1405	1435
MAY	.04	.09	.10	.11	.18	.21	.26	.31	.38	.39	.44	.49
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0210	0215	0220	0225	0240	0250	0305	0325	0345	0400	0430	0450
JUN	.08	.15	.21	.24	.29	.30	.35	.41	.42	.45	.50	.56
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0840	0840	0845	0800	0840	0855	0910	0930	0930	0915	0915	0915
JUL	.02	.02	.03	.04	.04	.05	.06	.08	.09	.10	.12	.13
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0535	0540	0545	0550	0609	0615	1040	1100	1110	1130	1200	1230
AUG	.14	.18	.20	.23	.27	.31	.32	.34	.34	.34	.34	.34
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0940	0945	0950	0955	1005	1020	1035	1050	1050	1050	1050	1050
SEP	.05	.08	.09	.10	.11	.17	.21	.24	.27	.29	.34	.40
DATE	20	20	20	20	24	24	24	24	24	24	24	24
TIME	1220	1220	1220	1230	0530	0530	0545	0605	0610	0615	0600	0600
OCT	.02	.02	.03	.03	.03	.04	.05	.05	.07	.08	.09	.10
DATE	29	29	29	29	29	28	28	28	28	28	28	28
TIME	0525	0530	0535	0540	0550	1155	1210	1225	1110	1145	1220	1235
NOV	.02	.03	.04	.05	.06	.07	.10	.13	.15	.16	.18	.18
DATE	24	24	24	24	24	24	22	22	22	22	22	22
TIME	1030	1610	1615	1620	1630	1645	0200	0220	0220	0235	0235	0235
DEC	.03	.04	.06	.07	.10	.13	.18	.20	.20	.23	.25	.27
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0635	0640	0322	0322	0322	0322	0322	0322	0322	0400	0430	0515
YEAR	.14	.18	.21	.24	.29	.31	.35	.41	.42	.45	.50	.56
MONTH	08	08	06	06	06	08	06	06	06	06	06	06

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

CHICAGO, ILLINOIS [illegible] HARE

[illegible]

CHICAGO, ILLINOIS [illegible]

[illegible]

MOLINE, ILLINOIS

[illegible]

PEORIA, ILLINOIS

[illegible]

ROCKFORD, ILLINOIS

[illegible]

SPRINGFIELD, ILLINOIS

[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

[illegible]SVILLE, INDIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	[illegible]	[illegible]	[illegible]	[illegible]	.08	.11	[illegible]	.17	.20	.24	.28
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0540	0540	0540	0255	0550	0550	0550	0550
FEB	[illegible]	.18	.22	[illegible]	.28	.30	.32	.43	.44	.45	.52	.53
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	[illegible]	[illegible]	1912	[illegible]	1923	1923	1923	1923	1930	1945	1925	1940
MAR	[illegible]	.23	.28	[illegible]	.37	.44	[illegible]	.59	.65	[illegible]	.89	.99
DATE	[illegible]	8	18	18	18	18	18	18	27	27	27	27
TIME	0135	0135	0140	0140	0140	0140	0140	0140	2215	2235	2300	2300
APR	[illegible]	.17	.17	.17	.17	.26	[illegible]	.35	[illegible]	.44	.53	.60
DATE	02	[illegible]	02	02	[illegible]	23	23	23	23	23	23	23
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1225	0515	0530	0520	0540	0600	0630	0635
MAY	.18	.23	.30	[illegible]	.39	.44	.46	.51	.57	.63	.83	[illegible]
DATE	[illegible]	[illegible]	29	[illegible]	3	3	[illegible]	[illegible]	03	03	03	03
TIME	1915	1920	1925	[illegible]	1710	1705	2235	[illegible]	1710	1710	1710	1715
JUN	.43	.76	.89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.15	[illegible]	[illegible]
DATE	28	28	28	28	28	28	28	28	28	28	28	29
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0135	[illegible]	[illegible]	[illegible]	0130	0130	[illegible]	0130
JUL	[illegible]	[illegible]	.99	[illegible]	1.00	1.01	1.02	[illegible]	[illegible]	1.28	1.49	[illegible]
DATE	24	24	24	24	24	24	[illegible]	[illegible]	29	29	29	29
TIME	[illegible]	[illegible]	1447	1452	1452	[illegible]	[illegible]	0325	0335	[illegible]	0325	0355
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.19	[illegible]	3.33	3.33	3.33	3.49	3.49
DATE	23	[illegible]	23	23	23	23	23	23	23	23	24	24
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2348	2348	2348	2348	0117	0140
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.86	[illegible]	1.09	[illegible]	1.14	1.15	1.16
DATE	[illegible]	13	13	13	13	13	13	13	13	13	13	13
TIME	1328	[illegible]	1328	1333	1343	1358	[illegible]	1433	1453	1513	1543	1613
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.74	.77	.84	.94	1.06	1.08	1.10
DATE	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	01	01	01	01	01	01
TIME	[illegible]	0538	0543	0548	0558	[illegible]	0617	0648	0708	0715	0715	[illegible]
NOV	[illegible]	.29	.33	[illegible]	.48	.59	.72	.84	.96	[illegible]	1.11	1.18
DATE	[illegible]	[illegible]	[illegible]	[illegible]	20	20	20	20	20	20	21	21
TIME	[illegible]	[illegible]	2245	[illegible]	[illegible]	2315	[illegible]	2320	2330	[illegible]	0010	0040
DEC	.16	[illegible]	[illegible]	.14	.19	.24	.31	.39	.45	.47	.56	.64
DATE	[illegible]	[illegible]	04	04	04	04	04	04	04	04	05	05
TIME	[illegible]	[illegible]	[illegible]	2257	[illegible]	2322	2337	2337	2337	2338	[illegible]	0137
YEAR	[illegible]	[illegible]	1.45	[illegible]	1.05	2.19	[illegible]	3.33	3.33	3.33	3.49	3.49
MONTH	08	08	08	08	[illegible]	8	[illegible]	08	08	08	08	08

FORT WAYNE, INDIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.04	.05	[illegible]	.07	[illegible]	.12	.13	.13	.14	.14	.15
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0114	0119	0124	0129	0139	0154	0208	0223	0243	0313	0343	0346
FEB	.05	.07	[illegible]	[illegible]	.19	.27	.34	.36	.36	[illegible]	.55	.61
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	[illegible]	[illegible]	1390	1355	2045	[illegible]	2115	2135	2155	2215	2100	2130
MAR	[illegible]	[illegible]	.13	[illegible]	.19	[illegible]	.30	.34	.36	.44	.50	.69
DATE	28	28	18	18	18	18	28	28	28	18	18	18
TIME	2240	2245	0010	[illegible]	0025	[illegible]	2030	2050	2110	0255	0225	0345
APR	[illegible]	.14	.22	.27	.28	.35	.36	.40	.42	.45	.48	.51
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	[illegible]	1210	1215	1225	1247	1247	1247	1247	1247	1247	1830
MAY	[illegible]	[illegible]	.04	[illegible]	.06	[illegible]	.12	[illegible]	.19	.20	.21	.22
DATE	03	03	03	03	03	03	04	04	04	04	04	04
TIME	2315	2320	2325	2330	2340	2355	0010	0030	0050	0110	0140	0210
JUN	.25	.34	.54	.62	[illegible]	.68	.70	.74	.77	.84	.85	.85
DATE	[illegible]	[illegible]	28	28	28	30	30	30	30	28	28	28
TIME	1047	1635	1640	1645	1655	1800	1815	1835	1855	1704	1732	1802
JUL	[illegible]	.43	.55	.69	[illegible]	.73	.85	.85	.85	.85	.85	.87
DATE	18	18	18	18	18	21	21	21	21	21	21	21
TIME	1335	1340	1345	[illegible]	1400	1335	1350	1410	1430	1450	1520	1550
AUG	.48	.90	1.20	[illegible]	1.27	1.28	1.29	1.32	1.34	1.35	1.36	1.36
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	[illegible]	1560	1545	1555	1610	1625	1645	1705	1725	1755	1825
SEP	.23	.28	.26	[illegible]	.42	.53	.65	.75	.86	.89	.95	1.04
DATE	[illegible]	[illegible]	01	13	13	13	13	13	13	13	13	13
TIME	2030	[illegible]	[illegible]	[illegible]	[illegible]	0220	0235	0255	0315	0345	0250	0320
OCT	.10	.13	.18	.22	.29	.34	.41	.44	.59	.62	.63	.63
DATE	31	31	01	01	01	01	01	01	01	01	01	01
TIME	2302	2307	0330	0335	0345	0400	0415	0610	0430	0450	0520	0550
NOV	.10	[illegible]	.13	.13	.17	.21	.27	.40	.42	.42	.42	.42
DATE	01	[illegible]	01	01	01	01	01	01	01	01	01	01
TIME	0050	0055	0100	0155	0035	2350	0010	0030	0050	0050	0050	0050
DEC	[illegible]	.04	[illegible]	[illegible]	.07	.11	.13	.17	.20	.22	.27	.30
DATE	24	24	24	24	14	14	14	14	14	14	14	14
TIME	1632	1637	1642	1647	0915	0930	0945	1005	1025	1045	1115	1145
YEAR	.48	[illegible]	1.20	[illegible]	1.27	1.28	1.29	1.32	1.34	1.35	1.36	1.36
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

INDIANAPOLIS, INDIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.03	.04	.06	.08	.09	.11	.14	.15	.18	.20
DATE	04	04	04	04	04	04	09	09	09	09	09	09
TIME	2120	2125	2130	2135	2200	2200	1900	1900	1830	1900	1915	1945
FEB	.34	.47	.53	.68	.73	.82	.93	1.04	1.15	1.22	1.30	1.40
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1949	1949	1949	1949	1949	1949	1949	1949	1949	1949	1949	1949
MAR	.14	.16	.17	.18	.21	.27	.28	.32	.34	.36	.41	.48
DATE	12	12	12	12	12	12	12	12	27	27	03	03
TIME	0811	0816	0821	0826	0814	0814	0814	0824	1634	1649	2030	2031
APR	.12	.23	.31	.35	.41	.45	.47	.63	.69	.72	.77	.81
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0239	0237	0242	0247	0257	0302	0322	0340	0357	0417	0447	0457
MAY	.14	.21	.25	.30	.36	.44	.52	.59	.62	.65	.66	.66
DATE	05	5	05	05	05	05	05	05	05	05	05	05
TIME	0052	0059	0100	0105	0115	0130	0145	0205	0225	0245	0248	0248
JUN	.29	.57	.64	.73	.78	.81	.93	1.08	1.11	1.13	1.21	1.27
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1752	1757	1802	1801	1807	1825	1803	1814	1840	1853	1813	1835
JUL	.33	.49	.74	.93	1.11	1.14	1.67	1.75	1.85	1.86	1.86	1.86
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1954	1909	1839	1834	1844	1859	1916	1936	1954	2014	2044	2114
AUG	.24	.35	.41	.47	.53	.59	.73	.90	.91	.91	.91	.92
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1515	1520	1525	1530	1540	1555	1610	1630	1650	1710	1740	1810
SEP	.48	.72	.84	.90	1.11	1.55	1.67	1.67	1.71	1.71	1.71	1.76
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	[illegible]	2325	2325	2330	2340	2355	2359	2359	2359	2359	2359	2359
OCT	.15	.29	.41	.49	.65	.75	.76	.79	.85	.89	.91	.91
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0411	0416	0421	0426	0436	0451	0506	0526	0546	0606	0636	0706
NOV	.07	.11	.13	.14	.18	.28	.36	.40	.43	.60	.66	.73
DATE	07	07	07	07	16	16	16	16	16	16	16	16
TIME	0235	0235	0235	0235	0200	0215	0230	0200	0220	0240	0310	0340
DEC	.08	.10	.11	.12	.15	.21	.24	.24	.26	.29	.35	.41
DATE	18	18	18	18	18	18	18	18	05	05	05	05
TIME	0021	0022	0027	0032	0042	0057	0112	0032	0341	0401	0431	0529
YEAR	.48	.72	.84	.93	1.11	1.55	1.67	1.75	1.85	1.86	1.86	1.86
MONTH	09	09	09	07	09	9	09	07	07	07	07	07

SOUTH BEND, INDIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.11	.12	[illegible]
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1500	[illegible]	1520	[illegible]	1515	1515	1515	1515	1530	1600
FEB	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.14	.16	.17	[illegible]	.22	.22
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	[illegible]	[illegible]	1700	[illegible]	1715	1715	1725	1745	1745	1745	1745	1745
MAR	[illegible]	[illegible]	.43	[illegible]	.50	[illegible]	[illegible]	.58	.64	[illegible]	.65	.69
DATE	[illegible]	[illegible]	[illegible]	12	[illegible]	12	12	28	28	28	28	28
TIME	[illegible]	[illegible]	[illegible]	2022	2032	2047	2102	[illegible]	1340	1400	1330	1400
APR	[illegible]	[illegible]	.13	[illegible]	.19	.24	[illegible]	.32	.34	.37	.41	.43
DATE	[illegible]	[illegible]	04	[illegible]	04	[illegible]	04	04	[illegible]	02	02	02
TIME	[illegible]	[illegible]	1150	[illegible]	1150	1150	1200	1220	0340	0400	0430	0400
MAY	[illegible]	[illegible]	.19	.22	.25	.28	.34	.35	.35	.40	[illegible]	.57
DATE	04	[illegible]	04	[illegible]	[illegible]	[illegible]	[illegible]	05	05	02	02	02
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2344	2359	0014	0034	0044	0700	0730	0800
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.97	.99	[illegible]	1.00	1.00	1.08	1.33
DATE	30	[illegible]	3	30	3	30	3	30	30	30	30	30
TIME	[illegible]	[illegible]	[illegible]	1402	1613	[illegible]	1641	1700	1720	1740	1215	1140
JUL	.44	[illegible]	.53	[illegible]	.63	.67	.69	.69	.69	.69	.69	.69
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	12	12	12	12
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1013	1013	1013	1013	1013	1013
AUG	[illegible]	.57	[illegible]	[illegible]	.97	[illegible]	[illegible]	[illegible]	1.30	[illegible]	1.46	1.48
DATE	[illegible]	8	[illegible]	[illegible]	[illegible]	8	[illegible]	28	28	28	28	28
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0615	[illegible]	[illegible]	2125	2147	2205	2237	2306
SEP	[illegible]	.74	.77	[illegible]	[illegible]	1.13	[illegible]	1.22	[illegible]	1.33	1.33	1.33
DATE	[illegible]	[illegible]	[illegible]	[illegible]	01	01	[illegible]	01	01	01	01	01
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1755	1837	1820	1842	1902	1913	1930	1930
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.37	.44	.54	.59	.65	.74
DATE	01	[illegible]	01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	01	01	01
TIME	[illegible]	0152	[illegible]	0152	0217	0232	[illegible]	0305	0305	0305	0300	0300
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.33	.37	[illegible]	.54	.60
DATE	[illegible]	20	[illegible]	20	25	25	25	25	25	25	25	25
TIME	[illegible]	2127	2130	[illegible]	[illegible]	2125	[illegible]	[illegible]	2219	2300	2314	2337
DEC	[illegible]	[illegible]	.13	[illegible]	[illegible]	[illegible]	.33	.37	.38	.38	.41	.41
DATE	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	01	01
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0044	[illegible]	0115	0140	[illegible]	[illegible]	1300
YEAR	[illegible]	[illegible]	[illegible]	[illegible]	1.10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.48
MONTH	[illegible]	6	08	[illegible]	[illegible]	9	[illegible]	09	[illegible]	08	[illegible]	08

DES MOINES, IOWA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.01	.02	[illegible]	[illegible]	[illegible]	[illegible]	.06	.07	.08	.08	.08
DATE		27	27	27	27	27	27	27	27	27	19	19
TIME		[illegible]	1715	[illegible]	1730	1745	1800	[illegible]	1840	1905	1358	1428
FEB	[illegible]	.10	.11	[illegible]	.12	[illegible]	.12	.12	.12	.12	.12	.12
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1110	[illegible]	1120	1125	1140	1155	1210	1230	1250	1310	1340	1410
MAR	[illegible]	[illegible]	.16	[illegible]	.20	.24	.30	.36	.39	.44	.56	.66
DATE	27	27	11	11	11	27	27	27	27	29	28	28
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0025	[illegible]	[illegible]	0135	0150	1205	1235	1305
APR	[illegible]	.33	.39	.44	.47	.49	.49	.49	.49	.49	.49	.49
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1214	1230	1231	1234	1245	1255	1310	1330	1350	1410	1440	1510
MAY	.15	.37	.37	.37	.37	.38	.38	.39	.40	.44	.45	.46
DATE	04	[illegible]	04	[illegible]	[illegible]	[illegible]	04	[illegible]	04	02	02	02
TIME	1310	1315	1320	1325	1335	1350	1405	2138	2158	1830	1900	1930
JUN	.50	.57	.57	.57	.58	.58	.58	.58	.58	.58	.58	.58
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1435	1440	1445	[illegible]	1500	1515	1530	1550	1610	1630	1700	1730
JUL	[illegible]	.36	.48	[illegible]	.86	1.00	1.01	1.09	1.10	1.10	1.10	1.10
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1628	[illegible]	1628	1631	1638	1650	1705	1722	1743	1805	1835	1905
AUG	.50	.97	1.07	1.22	1.64	1.90	2.21	2.67	2.76	2.79	3.33	4.12
DATE	31	31	31	31	26	26	26	26	26	26	26	26
TIME	[illegible]	[illegible]	2110	2113	0115	0115	0130	0147	0207	0227	0257	0327
SEP	.26	.28	.29	[illegible]	.48	.58	.69	.73	.74	.75	.79	.80
DATE	08	08	08	08	08	8	09	09	09	09	09	09
TIME	2338	2338	2342	[illegible]	2358	2358	0008	0028	0048	0118	0148	0201
OCT	[illegible]	[illegible]	.15	.17	.21	.24	.28	.36	.48	.55	.60	.62
DATE	30	30	30	30	30	31	31	31	31	31	31	31
TIME	2330	[illegible]	2330	2345	2358	[illegible]	0027	0045	0105	0122	[illegible]	0225
NOV	.13	[illegible]	.18	[illegible]	.20	.21	.27	.30	.34	.36	.36	.36
DATE	[illegible]	9	09	09	09	09	09	09	09	09	09	09
TIME	[illegible]	[illegible]	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020
DEC	.02	.03	[illegible]	[illegible]	[illegible]	.08	[illegible]	.12	.15	.19	.21	.25
DATE	[illegible]	9	19	19	19	19	19	31	31	19	19	31
TIME	[illegible]	1545	1545	1545	1545	1600	1546	1800	1800	1600	1600	1800
YEAR	[illegible]	.97	1.07	[illegible]	1.64	1.90	2.21	2.67	2.76	2.79	3.33	4.12
MONTH	08	08	08	08	[illegible]	08	08	08	08	08	08	08

DUBUQUE, IOWA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	[illegible]	.03	.04	.06	.07	.08	.09	.11	.12	.15
DATE	27	27	27	27	26	26	26	26	26	26	26	26
TIME	0156	0158	0158	0158	0635	0658	0703	0720	0750	0807	0837	0858
FEB	.06	.08	.09	.12	.14	.15	.19	.21	.24	.29	.36	.36
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0332	0334	0334	0337	0350	0350	0400	0400	0428	0510	0510	0430
MAR	.09	.13	.14	.17	.19	.21	.26	.32	.34	.35	.42	.51
DATE	12	12	12	12	12	12	27	27	27	29	29	29
TIME	2215	2215	2216	2214	2218	2234	0006	0018	0041	1402	1338	1401
APR	.05	.08	.09	.11	.14	.16	.22	.23	.25	.29	.31	.33
DATE	02	02	02	02	28	04	28	04	04	04	04	04
TIME	1240	1245	1250	1255	0030	0847	0557	0925	0908	0938	0946	1000
MAY	.90	.95	1.01	[illegible]	1.17	1.26	1.27	1.28	1.28	1.28	1.47	1.68
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1208	1210	1210	1215	1215	1215	1230	1245	1245	1245	1400	1430
JUN	.27	.37	.40	.46	.48	.48	.48	.48	.48	.48	.48	.48
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1530	1530	1530	1535	1540	1540	1540	1540	1540	1540	1540	1540
JUL	.35	.57	.57	.61	.94	1.07	1.32	1.40	1.54	1.61	1.89	1.96
DATE	17	16	16	16	17	17	17	17	17	17	17	17
TIME	2345	2233	2233	2235	0656	0650	0657	0715	0715	0718	0718	0715
AUG	.31	.45	.50	.55	.60	.60	.62	.66	.70	.79	.92	1.02
DATE	08	08	08	08	08	08	08	08	16	16	16	16
TIME	0005	0010	0015	0020	0030	0045	0100	0120	0004	0017	0022	0048
SEP	.32	.44	.46	.49	.59	.72	.75	.77	.80	.81	.84	.88
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	2022	2029	2030	2035	2045	2050	2112	2133	2150	2230	2257	2310
OCT	[illegible]	.06	.07	.08	.09	.14	.17	.20	.24	.30	.36	.44
DATE	24	24	24	24	24	07	07	07	07	07	07	07
TIME	0650	0655	0700	0705	0715	1745	1745	1745	1745	1745	1745	1745
NOV	.07	.12	.13	.13	.16	.20	.32	.35	.39	.44	.50	.54
DATE	20	20	20	20	20	07	07	07	07	07	07	07
TIME	1218	1218	1218	1216	1218	0555	0608	0619	0645	0643	0650	0716
DEC	.01	[illegible]	.03	.04	.05	.07	.10	.11	.13	.15	.17	.21
DATE	20	20	20	20	20	05	05	05	05	08	05	08
TIME	0350	0350	0350	0350	0350	1155	1143	1205	1225	0735	1315	0850
YEAR	.90	.95	1.01	1.16	1.17	1.2	1.32	1.40	1.54	1.61	1.89	1.96
MONTH	05	05	05	05	05	05	07	07	07	07	07	07

SIOUX CITY, IOWA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.11	.11	.12	.12
DATE	[illegible]	9	[illegible]	19	[illegible]	19	19	9	19	19	19	19
TIME	[illegible]	[illegible]	[illegible]	0520	0530	0540	0540	0540	0637	0637	0715	0715
FEB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.05	[illegible]	[illegible]	.08	.08
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	[illegible]	[illegible]	1440	[illegible]	[illegible]	1455	1455	[illegible]	1500	1500	1500	1500
MAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.20	.25	.31	.35	.36	.40	.46
DATE	[illegible]	2	02	02	02	2	02	11	11	11	11	11
TIME	[illegible]	[illegible]	0850	0900	0910	[illegible]	[illegible]	0940	1000	0945	0940	[illegible]
APR	[illegible]	.16	[illegible]	[illegible]	[illegible]	.27	.33	.42	.52	[illegible]	.65	.66
DATE	[illegible]	12	12	12	12	12	12	12	12	12	12	12
TIME	[illegible]	[illegible]	1915	[illegible]	1930	[illegible]	[illegible]	[illegible]	2040	2050	2055	2100
MAY	.18	.20	[illegible]	[illegible]	.38	.44	.52	.59	[illegible]	.68	.68	.68
DATE	26	26	26	26	27	27	27	27	27	27	27	27
TIME	[illegible]	1420	[illegible]	[illegible]	[illegible]	[illegible]	0700	[illegible]	0730	0740	0740	0740
JUN	[illegible]	.44	.46	[illegible]	[illegible]	.74	[illegible]	.78	.78	.78	.89	.99
DATE	[illegible]	22	22	[illegible]	[illegible]	22	22	22	22	22	13	13
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2209	2215	2230	2238	2238	2238	0250	0335
JUL	[illegible]	[illegible]	.70	[illegible]	.96	[illegible]	[illegible]	[illegible]	2.30	2.44	2.53	2.64
DATE	[illegible]	6	06	[illegible]	[illegible]	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	1802	[illegible]	1650	0010	[illegible]	[illegible]	0056	[illegible]	0146	0216
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.15	1.19	1.15
DATE	[illegible]	9	09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	09	09	09
TIME	[illegible]	[illegible]	0217	0222	0232	[illegible]	[illegible]	0302	[illegible]	0302	0302	302
SEP	.44	[illegible]	.85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.22	2.28	2.33	2.33
DATE	[illegible]	03	03	[illegible]	[illegible]	[illegible]	03	[illegible]	03	03	03	03
TIME	[illegible]	[illegible]	[illegible]	0239	[illegible]	[illegible]	0307	0328	0348	0407	[illegible]	507
OCT	[illegible]	.22	.26	[illegible]	.41	[illegible]	[illegible]	[illegible]	[illegible]	.74	.76	.76
DATE	[illegible]	[illegible]	3	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	30	30	30
TIME	[illegible]	[illegible]	2144	[illegible]	2150	2209	[illegible]	[illegible]	[illegible]	2235	2245	[illegible]
NOV	[illegible]	.07	[illegible]	.10	.13	.18	.21	.23	.29	.35	.40	.45
DATE	[illegible]	9	[illegible]	[illegible]	09	9	[illegible]	[illegible]	09	09	09	09
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0115	[illegible]	0115	0200	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	.10	[illegible]	[illegible]	.27	.31	.37	.41	.45	[illegible]	.50
DATE	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	16	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	2102	[illegible]	[illegible]	2129	[illegible]	2150	2210	[illegible]	[illegible]
YEAR	.44	.78	[illegible]	1.04	1.40	[illegible]	[illegible]	2.10	[illegible]	[illegible]	[illegible]	2.64
MONTH	[illegible]	9	09	[illegible]	[illegible]	9	[illegible]	[illegible]	07	[illegible]	07	[illegible]

WATERLOO, IOWA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	T	T	T	[illegible]	.02	[illegible]	.03	.04	[illegible]	.06	.08
DATE					19	19	[illegible]	19	19	19	19	19
TIME					1445	1445	1445	1445	1445	1445	1445	1445
FEB	[illegible]	[illegible]	.18	[illegible]	.19	[illegible]	.21	.21	.21	[illegible]	.23	.25
DATE	[illegible]	23	23	23	23	23	23	23	23	23	23	23
TIME	0340	0345	0345	0345	0345	0345	[illegible]	0415	0445	0512	0540	0620
MAR	[illegible]	.13	.14	[illegible]	.26	[illegible]	.42	.46	.49	.52	.67	.68
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	2010	2015	2017	2010	2010	2010	2017	2017	2017	2020	2020
APR	.03	[illegible]	.08	[illegible]	.12	[illegible]	.17	.23	[illegible]	[illegible]	.29	.34
DATE	[illegible]	20	20	[illegible]	[illegible]	20	20	20	20	20	01	01
TIME	[illegible]	2122	2127	[illegible]	2230	2245	2210	2233	2243	[illegible]	[illegible]	2108
MAY	.15	[illegible]	.30	[illegible]	.31	.32	[illegible]	.34	.34	[illegible]	.34	.34
DATE	[illegible]	[illegible]	21	[illegible]	21	21	21	21	21	21	21	21
TIME	1715	1723	1728	[illegible]	1740	[illegible]	1805	[illegible]	1820	1820	1820	1820
JUN	[illegible]	[illegible]	.48	.66	[illegible]	.72	[illegible]	[illegible]	.75	.76	1.22	1.22
DATE	[illegible]	30+	30+	[illegible]	30+	30+	[illegible]	30+	30+	30+	30+	30+
TIME	[illegible]	0454	0457	0459	0500	0500	0500	0500	0500	0500	0500	0500
JUL	[illegible]	.44	.50	[illegible]	.98	[illegible]	[illegible]	1.04	[illegible]	1.04	[illegible]	1.04
DATE	[illegible]	16	16	16	16	16	16	16	16	16	16	16
TIME	1821	2146	[illegible]	2156	[illegible]	2221	2221	2221	2221	2221	2221	2221
AUG	.12	.24	.33	[illegible]	[illegible]	.84	1.08	1.28	[illegible]	1.32	1.37	1.38
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	[illegible]	2039	2110	2119	2118	2105	2115	2130	2135	2200	2210	2305
SEP	.46	.54	.60	.78	[illegible]	.88	[illegible]	1.29	1.38	1.41	1.66	1.78
DATE	18	18	18	18	18	18	18	18	18	18	19	19
TIME	2145	2150	2155	2200	2210	2220	2235	2255	2315	2335	0005	0035
OCT	[illegible]	.07	.08	[illegible]	.16	.19	.22	.27	.30	.33	.38	.39
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1000	[illegible]	1000	[illegible]	[illegible]	[illegible]	1013	1029	1045	1105	1132	1202
NOV	.15	[illegible]	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	0925	0930	0935	0935	0945	0955	1020	1020	1020	1020	1020	1020
DEC	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
YEAR	.46	.54	.60	.78	.98	[illegible]	1.08	1.29	1.38	1.41	1.66	1.78
MONTH	09	09	09	09	07	07	08	09	09	09	09	09

CONCORDIA, KANSAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.02	.03	.04	.04	.05	.06	.07	.09	.09	.10
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947
FEB	T	T	T	T	T	.01	.01	.01	.01	.01	.01	.01
DATE						02+	02+	23+	23+	23+	23+	23+
TIME						0945	1445	1445	1445	1445	1445	1445
MAR	.08	.13	.14	.16	.20	.22	.29	.31	.33	.36	.42	.46
DATE	10	10	10	10	10	10	10	10	10	28	28	28
TIME	2200	2203	2203	2203	2208	2208	2208	2208	2208	0955	1030	1055
APR	.18	.27	.28	.31	.34	.42	.47	.52	.56	.58	.58	.58
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	2100	2105	2110	2110	2115	2130	2145	2200	2220	2240	2310	2340
MAY	.36	.46	.58	.60	.66	.70	.74	.77	.77	.77	.77	.84
DATE	02	02	02	02	02	02	02	02	02	02	02	20
TIME	1421	1426	1431	1436	1440	1501	1516	1536	1556	1616	1646	2245
JUN	.88	.98	1.13	1.26	1.68	2.06	2.06	2.06	2.06	2.06	2.06	2.06
DATE	21	21	21	21	17	17	17	17	17	17	17	17
TIME	1205	1210	1215	1220	0048	0103	0118	0138	0158	0218	0248	0318
JUL	.23	.37	.41	.47	.64	.69	.70	.71	.72	.73	.74	.75
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0325	0330	0335	0340	0350	0405	0420	0440	0500	0520	0550	0620
AUG	.50	.79	.84	1.00	1.20	1.50	1.90	2.26	2.37	2.54	2.79	2.84
DATE	16	04	04	04	16	16	16	16	16	16	16	16
TIME	0005	0035	0058	0103	0030	0045	0100	0120	0140	0200	0230	0300
SEP	.14	.19	.20	.23	.32	.46	.54	.60	.68	.78	.86	.98
DATE	12	2	12+	02	12+	02	02	02	02	02	02	02
TIME	0025	0329	0035	0325	0050	0400	0358	0415	0435	0455	0525	0555
OCT	.16	.23	.26	.28	.33	.40	.46	.56	.68	.76	.80	.88
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0131	0135	0135	0135	0135	0145	0135	0135	0135	0200	0230	0300
NOV	.02	.04	.05	.07	.10	.13	.16	.22	.27	.29	.37	.44
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0810	0815	0820	1038	1050	1100	1115	0930	1050	1010	1040	1110
DEC	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	04	31	31	31	31	31	31	31	31	31	31	31
TIME	2032	0847	0852	0857	0907	0922	0937	0957	1017	1037	1107	1137
YEAR	.88	.98	1.13	1.26	1.68	2.06	2.06	2.26	2.37	2.54	2.79	2.84
MONTH	06	06	06	06	06	06	06	08	08	08	08	08

MAXIMUM SHORT DURATION PRECIPITATION

MAXIMUM SHORT DURATION PRECIPITATION

YEAR 1977

Maximum precipitation in inches 5 to 180 minutes

[illegible]VILLE, [illegible]

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	[illegible]	[illegible]	.75	[illegible]	1.15	1.28	1.42	1.53	1.93	2.00
DATE	[illegible]	24	[illegible]	[illegible]	14	14	14	[illegible]	14	[illegible]	14	14
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0542	0542	0545	0545	0545	0545	0600
FEB	[illegible]	[illegible]	[illegible]	[illegible]	.48	[illegible]	.50	.70	.78	.80	.83	.84
DATE	[illegible]	[illegible]	[illegible]	[illegible]	03	[illegible]	[illegible]	[illegible]	03	03	[illegible]	03
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0915	0859	0859	[illegible]	[illegible]	0915
MAR	[illegible]	[illegible]	.45	[illegible]	.70	.75	[illegible]	[illegible]	[illegible]	[illegible]	.77	.77
DATE	[illegible]	[illegible]	04	[illegible]	04	[illegible]	04	[illegible]	[illegible]	[illegible]	[illegible]	04
TIME	[illegible]	0411	[illegible]	0411	[illegible]	0430	[illegible]	0502	0502	0504	[illegible]	0502
APR	[illegible]	[illegible]	.65	[illegible]	[illegible]	[illegible]	[illegible]	1.21	[illegible]	[illegible]	[illegible]	1.58
DATE	[illegible]	18	[illegible]	18	[illegible]	18	18	18	18	[illegible]	[illegible]	18
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0300	[illegible]	[illegible]	0306	[illegible]	[illegible]	0355	0355
MAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.78	1.78	1.78	1.78	1.78	1.78
DATE	[illegible]	[illegible]	26	[illegible]	26	26	26	26	26	26	26	26
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1352	1352	[illegible]	1355	1355	1355	[illegible]	1355
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	12	[illegible]	12	12	12
TIME	[illegible]	[illegible]	1332	[illegible]	[illegible]	1345	1345	[illegible]	1345	1345	1345	1345
JUL	[illegible]	[illegible]	.30	[illegible]	[illegible]	.51	.54	.55	[illegible]	[illegible]	[illegible]	1.10
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1112	[illegible]	[illegible]	0922	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1136
AUG	[illegible]	[illegible]	1.05	1.13	1.30	1.37	[illegible]	1.85	[illegible]	1.90	[illegible]	2.02
DATE	[illegible]	[illegible]	03	[illegible]	10	10	[illegible]	10	[illegible]	[illegible]	10	10
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1245	[illegible]	1315	[illegible]	1315
SEP	[illegible]	1.15	[illegible]	[illegible]	1.70	[illegible]	[illegible]	[illegible]	[illegible]	1.80	1.86	1.86
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	[illegible]	12	12	12
TIME	[illegible]	[illegible]	1636	1638	1647	1655	1713	1720	1720	[illegible]	1720	1720
OCT	[illegible]	[illegible]	.93	[illegible]	1.55	1.66	1.70	1.72	1.72	1.72	1.72	1.72
DATE	[illegible]	[illegible]	25	25	[illegible]	25	25	25	[illegible]	25	25	25
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0737	[illegible]	[illegible]	0737
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.85	2.17	2.34
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	02	02	02
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1445	0735	[illegible]	[illegible]	0830	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.45	.51	.53	.53	.53
DATE	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]	20	20	20	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1050	1113	1042	[illegible]	[illegible]	1135	1135	1135
YEAR	[illegible]	[illegible]	1.25	1.45	1.70	1.80	1.86	[illegible]	[illegible]	1.96	2.17	2.34
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08	11	[illegible]

[illegible]EPORT, [illegible]

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.17	.14	[illegible]	.22	[illegible]	.30	.31	.33	.36	.46	.50
DATE	[illegible]	[illegible]	06	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]	13
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1604	1619	1644	1714	1744
FEB	[illegible]	[illegible]	[illegible]	[illegible]	1.15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.78	1.79
DATE	[illegible]	11	11	[illegible]	11	[illegible]	[illegible]	11	11	11	11	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1820	[illegible]	1850	[illegible]	[illegible]	1925	1955	2025
MAR	[illegible]	[illegible]	.42	[illegible]	[illegible]	.68	[illegible]	[illegible]	1.15	1.21	1.40	1.62
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	03	03	03	03	03	03	03
TIME	[illegible]	[illegible]	1045	[illegible]	[illegible]	[illegible]	1130	[illegible]	[illegible]	1230	1300	[illegible]
APR	[illegible]	[illegible]	[illegible]	[illegible]	.43	[illegible]	.51	.54	.55	.55	.58	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	17	[illegible]	17	17	17	17	17	17
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1921	1930	[illegible]	1954	[illegible]	1954	[illegible]	[illegible]
MAY	[illegible]	[illegible]	.25	[illegible]	[illegible]	.45	.49	.57	[illegible]	[illegible]	[illegible]	.98
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	01	01	01	01	01	01	01
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1815	1815
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.87	.88	.88	[illegible]	.88	.88
DATE	04	[illegible]	04	[illegible]	04	[illegible]	04	[illegible]	[illegible]	04	[illegible]	04
TIME	[illegible]	[illegible]	1830	[illegible]	[illegible]	[illegible]	[illegible]	1933	[illegible]	[illegible]	2013	2043
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.23	[illegible]	1.42	[illegible]	[illegible]	1.51	1.53
DATE	[illegible]	[illegible]	27	[illegible]	27	27	27	27	[illegible]	27	27	27
TIME	[illegible]	[illegible]	1459	1404	1414	1429	[illegible]	1504	1524	1543	1614	[illegible]
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.15
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	05	[illegible]	[illegible]	05	[illegible]	05
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0941	[illegible]	1031	[illegible]
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.21
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08	[illegible]	08	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	1620	[illegible]	1640	1650	[illegible]	[illegible]	1750	[illegible]	1750
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.10	[illegible]	.10	.10
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	10	10	10
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0845	[illegible]	0845	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	.45	[illegible]	[illegible]	.69	.72	[illegible]	.80	.80
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1552	[illegible]
DEC	[illegible]	.37	[illegible]	.37	[illegible]	.38	[illegible]	[illegible]	[illegible]	.57	[illegible]	.81
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08	[illegible]	13	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1120	1120	0802	[illegible]	0850
YEAR	.32	[illegible]	[illegible]	[illegible]	1.15	[illegible]	[illegible]	1.67	[illegible]	[illegible]	[illegible]	1.79
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	02	[illegible]	02	[illegible]	02	02

BALTIMORE, MARYLAND

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.05	[illegible]	[illegible]	[illegible]	[illegible]	.11	[illegible]	.19	[illegible]	.20	.21
DATE	[illegible]	10	[illegible]	[illegible]	10	[illegible]	10	10	[illegible]	[illegible]	10	10
TIME	[illegible]	[illegible]	[illegible]	0435	[illegible]	[illegible]	0620	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB	[illegible]	[illegible]	[illegible]	[illegible]	.23	.26	.29	.37	[illegible]	[illegible]	.46	.51
DATE	24	[illegible]	24	[illegible]	24	24	24	[illegible]	24	24	24	24
TIME	[illegible]	[illegible]	1525	[illegible]	[illegible]	[illegible]	1610	1605	1635	[illegible]	1720	1750
MAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.80	[illegible]	.89	.90	.91	.91	.91
DATE	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]	13	[illegible]	13	13	13
TIME	[illegible]	[illegible]	[illegible]	1729	1737	1745	[illegible]	[illegible]	1845	1924	1924	1924
APR	[illegible]	[illegible]	[illegible]	[illegible]	.30	.37	.43	.53	[illegible]	[illegible]	.90	[illegible]
DATE	[illegible]	[illegible]	24	24	24	24	24	24	[illegible]	02	02	02
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1830	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1200	1230
MAY	[illegible]	[illegible]	[illegible]	.32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	06	06	06	[illegible]	06	[illegible]	[illegible]	[illegible]	[illegible]	06	[illegible]	06
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1640	[illegible]	1646
JUN	[illegible]	.37	[illegible]	.45	.54	.62	.70	.71	.72	[illegible]	.75	[illegible]
DATE	[illegible]	17	[illegible]	17	17	[illegible]	[illegible]	[illegible]	[illegible]	09	[illegible]	09
TIME	[illegible]	[illegible]	1920	[illegible]	1922	[illegible]	[illegible]	1615	[illegible]	1650	1725	[illegible]
JUL	.26	[illegible]	.45	.55	.72	[illegible]	.74	.74	[illegible]	[illegible]	[illegible]	.74
DATE	[illegible]	17	[illegible]	[illegible]	[illegible]	17	[illegible]	17	[illegible]	[illegible]	17	17
TIME	[illegible]	[illegible]	1957	2002	2012	[illegible]	[illegible]	2030	2030	2030	2030	2030
AUG	[illegible]	[illegible]	[illegible]	[illegible]	1.18	[illegible]	[illegible]	1.24	[illegible]	[illegible]	1.26	1.26
DATE	[illegible]	[illegible]	14	[illegible]	[illegible]	14	[illegible]	14	14	14	14	14
TIME	[illegible]	[illegible]	1205	[illegible]	1220	[illegible]	[illegible]	1310	1330	[illegible]	1420	1445
SEP	[illegible]	[illegible]	.19	[illegible]	[illegible]	[illegible]	.25	[illegible]	.25	[illegible]	.25	.25
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	06	[illegible]	[illegible]	[illegible]	06	06
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1815	[illegible]	1822	1822	1822	1822
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.71	.79	.82
DATE	[illegible]	[illegible]	[illegible]	26	[illegible]	26	[illegible]	26	[illegible]	26	[illegible]	26
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2015	[illegible]	2045	2100	2100	[illegible]	[illegible]
NOV	.10	.15	.17	.21	.31	[illegible]	.51	.60	[illegible]	.69	.75	.89
DATE	06	[illegible]	06	[illegible]	[illegible]	[illegible]	06	[illegible]	[illegible]	06	[illegible]	[illegible]
TIME	[illegible]	2039	2045	[illegible]	2040	2047	2043	[illegible]	2047	[illegible]	2043	[illegible]
DEC	.10	.13	.15	[illegible]	[illegible]	.37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.02
DATE	[illegible]	18	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	0707	0717	[illegible]	0747	0807	0827	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	.87	[illegible]	[illegible]	[illegible]	1.20	1.23	1.24	1.24	[illegible]	1.26	[illegible]
MONTH	[illegible]	08	[illegible]	[illegible]	08	[illegible]	08	[illegible]	[illegible]	08	[illegible]	08

LAKE CHARLES, LOUISIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.28	.30	.35	.47	.59	.64	.88	.95	1.00	1.24	1.37
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1947	1950	1950	1950	2005	2014	2020	2045	2010	2045	2039	2046
FEB	.13	.17	.19	.21	.24	.30	.36	.37	.39	.43	.44	.52
DATE	03	03	03	03	03	26	03	03	03	03	03	03
TIME	0254	0259	0304	0309	0319	1145	0327	0337	0356	0417	0447	0517
MAR	.10	.17	.23	.3	.43	.52	.57	.61	.65	.66	.75	.77
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0600	0603	0545	0950	0600	0603	0615	0615	0615	0633	0715	0745
APR	.28	.53	.55	.62	.85	1.02	1.15	1.32	1.37	1.40	1.52	1.55
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	0650	0659	0700	1938	1540	1542	1542	1550	1610	1542	1610	1640
MAY	.15	.20	.25	.28	.35	.40	.41	.41	.41	.41	.41	.41
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1248	1249	1248	1250	1255	1315	1320	1320	1320	1320	1320	1320
JUN	.36	.49	.55	.69	.85	1.02	1.12	1.15	1.18	1.20	1.20	1.20
DATE	06	12	12	12	12	12	12	12	12	12	12	12
TIME	1517	1424	1431	1436	1446	1501	1516	1531	1555	1610	1616	1616
JUL	.20	.38	.45	.52	[illegible]	[illegible]	1.25	1.40	1.49	1.51	1.57	1.60
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1725	1732	1739	1741	1755	1805	1820	1840	1900	1917	1930	2020
AUG	.45	.63	.78	[illegible]	[illegible]	1.15	1.70	2.15	2.85	3.40	3.58	4.10
DATE	31	22	22	22	22	23	23	23	23	23	23	23
TIME	1314	1955	1600	1605	1615	0645	0710	0720	0740	0800	0830	0900
SEP	.45	.49	.51	.51	.52	.58	.58	.60	.62	.63	.64	.66
DATE	13	13	13	13	09	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1015	1019	1529	2230	2245	2300	2328	2345	2359	2359
OCT	.38	.79	.91	.98	[illegible]	1.29	1.33	1.36	1.37	1.44	1.49	1.50
DATE	[illegible]	23	23	23	02	02	02	02	02	02	02	02
TIME	1115	1329	1330	1334	1418	1433	1448	1508	1528	1444	1514	1544
NOV	.58	.68	.71	.81	1.03	1.11	1.16	1.26	1.32	1.36	1.43	1.50
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1501	1504	1508	1504	1509	1514	1530	1550	1613	1630	1700	1730
DEC	.26	.48	.53	.66	.82	.98	1.15	1.27	1.37	1.39	1.42	1.60
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1420	1433	1433	1433	1435	1440	1502	1501	1513	1530	1600	1516
YEAR	.45	.75	.91	.98	1.20	1.29	1.70	2.15	2.85	3.40	3.58	4.10
MONTH	09	10	10	10	10	10	08	08	08	08	08	08

CARIBOU, MAINE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.14	.16	.21	.28	.32	.42	.48	.53	.54	.67	.73
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0440	0435	0440	0440	0045	0445	0450	0455	0450	0455	0455	0510
FEB	.04	.07	.09	.11	.13	.16	.22	.24	.27	.30	.34	.34
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1215	1230	1245	1230	1220	1230	1240	1255	1300	1310	1325	1330
MAR	.03	.06	.06	.08	.10	.12	.15	.19	.22	.26	.36	.41
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0450	0500	0505	0510	0505	0520	0500	0520	0440	0500	0515	0600
APR	.04	.06	.07	.09	.11	.14	.20	.22	.25	.29	.32	.39
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1725	1725	1706	1730	1730	1745	1730	1745	1800	1800	1830	1800
MAY	.03	.03	.03	.04	.04	.05	.07	.09	.13	.14	.15	.15
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1515	1515	1515	1424	1030	1115	1045	1100	1130	1145	1215	1245
JUN	.29	.49	.49	.50	.52	.54	.55	.55	.55	.55	.55	.55
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1505	1505	1505	1505	1505	1505	1515	1520	1555	1630	1645	1715
JUL	.10	.19	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1320	1320	1330	1335	1340	1355	1410	1430	1450	1510	1540	1610
AUG	▸ .50	.64	.78	.94▸	1.20	1.50▸	1.60	1.67	1.71	1.78	1.89	2.01
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1445	1450	1455	1500	1510	1525	1540	1600	1620	1640	1710	1740
SEP	.05	.10	.11	.12	.14	.16	.21	.26	.32	.38	.52	.57
DATE	10	10	10	10	10	14	14	14	14	14	14	14
TIME	1645	1650	1655	1700	1655	1840	1855	1915	1805	1820	1855	1915
OCT	.09	.14	.15	.18	.25	.30	.35	.38	.42	.50	.59	.68
DATE	17	17	17	15	15	15	15	15	02	02	02	02
TIME	0855	0900	0905	0730	0745	0800	0815	0835	0235	0300	0320	0400
NOV	.03	.05	.07	.08	.13	.16	.18	.18	.18	.18	.18	.18
DATE	17	17	17	17	17	17	17	17	17	17	18	18
TIME	2140	2159	2200	2205	2215	2245	2230	2250	2310	2330	0000	0030
DEC	.03	.05	.06	.07	.09	.11	.14	.18	.22	.28	.33	.40
DATE	25	25	25	25	25	25	16	25	25	25	25	25
TIME	1945	1945	1945	1945	1945	1945	1900	1920	1940	2000	2030	2100
YEAR	▸ .50	.64	.78	.94▸	1.20	1.50▸	1.60	1.67	1.71	1.78	1.89	2.01
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

BLUE HILL OBS, MASSACHUSETTS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.09	.12	.16	.22	.31	.38	.49	.61	.68	.83	.89
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1245	1249	1245	1245	1245	1300	1300	1300	1300	1300	1330	1400
FEB	.05	.10	.15	.17	.20	.25	.35	.45	.57	.59	.60	.64
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0205	0210	0215	0220	0145	0200	0230	0230	0230	0230	0230	0300
MAR	.07	.11	.13	.15	.21	.27	.33	.38	.40	.45	.55	.69
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1815	1815	1815	1815	1835	1820	1835	1855	1910	1935	2005	2035
APR	.07	.10	.11	.13	.20	.28	.34	.43	.47	.57	.61	.69
DATE	05	05	05	05	05	05	05	05	05	09	05	05
TIME	0335	0335	0335	0335	0400	0415	0430	0435	0435	0445	0445	0445
MAY	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
JUN	.13	.18	.28	.30	.31	.32	.34	.35	.39	.43	.49	.56
DATE	26	26	26	26	26	26	26	10	10	10	10	10
TIME	0425	0430	0435	0435	0440	0445	0450	0655	0715	0715	0745	0800
JUL	.16	.20	.20	.20	.21	.23	.35	.40	.45	.47	.63	.68
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	2015	2015	2015	2015	1100	1100	0925	0925	0925	0925	1100	1040
AUG	.13	.23	.26	.30	.35	.37	.39	.39	.40	.40	.40	.40
DATE	12	12	01	12	12	12	12	12	12	12	12	12
TIME	1215	1210	1648	1220	1220	1215	1220	1230	1230	1230	1230	1230
SEP	.20	.24	.29	.29	.39	.45	.45	.45	.55	.61	.74	.81
DATE	26	26	26	26	26	26	26	20	20	20	20	20
TIME	1242	1249	1245	1249	1245	1255	1255	1230	1230	1255	1230	1300
OCT	.05	.10	.15	.20	.28	.31	.32	.37	.42	.45	.53	.60
DATE	09	09	09	09	09	09	09	09	09	09	01	01
TIME	1700	1705	1710	1715	1725	1740	1755	1759	1755	1755	2130	2200
NOV	.09	.10	.14	.15	.17	.24	.25	.30	.44	.45	.59	.66
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	2320	2329	1800	1800	2359	2359	1800	1820	1840	1900	2330	2359
DEC	.04	.07	.06	.10	.14	.18	.23	.27	.32	.35	.41	.46
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0530	0530	0530	0530	0530	0600	0600	0620	0640	0700	0730	0800
YEAR	.20	.25	.29	.30	.39	.45	.45	.49	.61	.68	.83	.89
MONTH	09	09	09	08	09	09	09	01	01	01	01	01

NEW ORLEANS, LOUISIANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.24	.28	.47	.56	.66	.73	.74	.75	.84	.91	1.00	1.05
DATE	09	06	06	06	06	06	06	06	14	14	14	14
TIME	1225	1611	1616	1621	1631	1640	1701	1721	0210	0230	0300	0330
FEB	.31	.57	.79	.85	.89	.92	.93	.93	.94	1.00	1.05	1.07
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	2023	2028	2033	2038	2048	2103	2118	2138	2158	2218	2248	2318
MAR	.28	.41	.53	.81	1.01	1.22	1.27	1.28	1.30	1.30	1.31	1.31
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0132	0122	0127	0132	0142	0157	0212	0232	0252	0312	0342	0412
APR	.35	.58	.69	.89	1.14	1.52	1.84	2.29	2.53	2.74	3.14	3.32
DATE	20	20	20	20	20	20	20	20	20	20	20	21
TIME	2116	2121	2124	2129	2139	2152	2208	2227	2248	2307	2338	0007
MAY	.28	.48	.50	.51	.53	.54	.54	.54	.56	.70	.72	.72
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	2020	2029	2030	2035	2045	2100	2115	2135	2155	2215	2230	2230
JUN	.27	.48	.52	.63	.82	.98	.99	1.00	1.00	1.00	1.00	1.00
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1410	1417	1417	1425	1436	1448	1502	1515	1520	1520	1520	1520
JUL	.23	.28	.30	.32	.41	.55	.58	.58	.58	.58	.58	.59
DATE	10	01	01	01	26	01	01	01	01	01	01	26
TIME	1730	1345	1350	1355	1813	1420	1430	1450	1510	1530	1600	2043
AUG	.34	.46	.51	.71	.80	.93	1.35	1.63	1.70	1.79	2.02	2.34
DATE	02	02	21	20	20	22	22	22	22	22	22	22
TIME	1805	1810	1115	1502	1512	0830	0845	0905	0925	0945	1015	1045
SEP	▸ .80	1.05	1.17	1.21	1.31	1.34	1.75	2.15	2.47	2.65	2.75	2.80
DATE	15	15	15	15	15	15	05	05	05	05	05	05
TIME	0637	0642	0647	0652	0702	0717	0500	0500	0508	0508	0506	0508
OCT	.29	.51	.65	.83	1.22	1.32	1.38	1.48	1.55	1.58	1.58	1.59
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0547	0547	0552	0557	0607	0622	0637	0657	0717	0737	0807	0837
NOV	.18	.25	.27	.33	.45	.54	.75	.90	.99	1.12	1.30	1.36
DATE	27	27	27	27	28	28	02	02	02	02	28	02
TIME	2258	2259	2300	2300	0010	0315	0330	0340	0340	0400	0100	0350
DEC	.22	.28	.33	.37	.46	.50	.55	.70	.72	.81	1.12	1.34
DATE	13	13	13	13	13	13	29	29	29	29	29	29
TIME	1749	1756	1759	1804	1814	1829	1512	1530	1535	1646	1641	1711
YEAR	▸ .80	1.05	1.17	1.21	1.31	1.52	1.84	2.29	2.53	2.74	3.14	3.32
MONTH	09	09	09	09	09	04	04	04	04	04	04	04

PORTLAND, MAINE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.34	.39	.40	.49	.79	.97	1.13	1.29	1.40	1.63	1.83	2.00
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1555	1555	1555	1555	1555	1555	1555	1555	1555	1614	1614	1614
FEB	.05	.08	.10	.13	.17	.26	.34	.45	.52	.58	.62	.78
DATE	24	25	25	25	25	25	25	25	25	25	25	25
TIME	2208	0210	0215	0338	0417	0432	0447	0447	0447	0500	0430	0500
MAR	.10	.19	.22	.26	.34	.43	.56	.67	.73	.80	.93	1.05
DATE	14	05	05	05	05	05	05	05	05	05	05	14
TIME	0332	0239	0235	0235	0245	0253	0258	0258	0258	0258	0258	0045
APR	.05	.09	.11	.15	.18	.22	.27	.31	.35	.42	.53	.55
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0425	0429	0425	0425	0425	0425	0425	0445	0445	0425	0445	0445
MAY	.03	.05	.06	.07	.11	.16	.20	.26	.33	.40	.43	.53
DATE	09	09	09	09	10	10	10	10	10	10	10	10
TIME	2344	2344	2344	2344	0428	0428	0445	0445	0115	0115	0115	0115
JUN	.11	.18	.21	.25	.28	.34	.41	.50	.56	.57	.62	.65
DATE	02	02	02	02	25	25	25	25	25	25	26	26
TIME	0511	0511	0511	0911	2315	2343	2343	2343	2343	2359	0030	0030
JUL	.32	.34	.53	.62	.71	.74	.79	.79	.79	.79	.79	.79
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1915	1920	1444	1446	1446	1455	1513	1513	1513	1513	1513	1513
AUG	.23	.36	.40	.54	.69	.85	.99	.99	.99	.99	.99	1.02
DATE	01	10	10	10	10	10	10	10	10	10	10	10
TIME	1352	1848	1848	1857	1905	1905	1905	1905	1905	1905	1905	1905
SEP	.26	.36	.38	.40	.55	.65	.72	.86	.93	.95	1.01	1.05
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1528	1528	1528	1528	1528	1528	1528	1601	1601	1601	1601	1601
OCT	.20	.29	.32	.45	.64	.66	.70	.71	.78	.94	1.02	1.10
DATE	17	17	17	17	17	17	17	17	17	17	01	17
TIME	0230	0233	0238	0238	0245	0245	0245	0245	0245	0400	2230	0430
NOV	.15	.29	.32	.39	.49	.57	.67	.77	.95	1.03	1.14	1.30
DATE	08	08	08	26	26	26	09	09	09	09	09	09
TIME	2210	2219	2215	1120	1130	1130	0234	0254	0314	0334	0350	0450
DEC	.06	.08	.10	.12	.15	.18	.24	.28	.36	.42	.45	.52
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1800	1800	1800	1800	1810	1622	1622	1622	1622	1622	1622	1622
YEAR	.34	.39	.53	.62	.79	.97	1.13	1.29	1.40	1.63	1.83	2.00
MONTH	01	01	07	07	01	01	01	01	[illegible]	01	01	01

BOSTON, MASSACHUSETTS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.09	.12	.17	.21	.30	.35	.43	.53	.63	.78	.88
DATE	28	28	28	28	28	28	28	10	10	10	10	10
TIME	2200	2200	2200	2200	2200	2200	2200	1329	1400	1400	1400	1400
FEB	.12	.14	.15	.16	.22	.30	.38	.52	.54	.54	.57	.62
DATE	27	27	25	25	25	25	25	25	25	25	25	25
TIME	2249	2254	0226	0230	0236	0236	0236	0236	0255	0255	0245	0245
MAR	.04	.07	.10	.13	.18	.23	.30	.33	.41	.48	.53	.62
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2007	2011	2017	2022	2022	2025	2040	2100	2046	2107	2107	2046
APR	.06	.11	.13	.14	.22	.27	.34	.38	.41	.50	.52	.60
DATE	23	23	23	23	05	05	05	05	05	05	05	05
TIME	2310	2319	2320	2325	0325	0623	0423	0445	0440	0445	0445	0500
MAY	.04	.08	.10	.13	.16	.24	.30	.38	.44	.50	.59	.67
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1923	1923	1923	1923	1923	1945	1945	1945	1945	1945	1945	1945
JUN	.05	.10	.12	.15	.17	.18	.20	.26	.29	.32	.36	.38
DATE	02	02	02	02	02	02	10	10	10	10	10	10
TIME	0539	0544	0549	0554	0604	0619	1845	1840	1840	1853	1945	2000
JUL	.22	.25	.33	.39	.41	.41	.51	.52	.53	.54	.55	.57
DATE	18	18	18	18	18	18	18	18	18	18	18	25
TIME	0034	0034	0034	0034	0045	0100	0115	0135	0155	0215	0214	1338
AUG	.25	.29	.29	.29	.35	.36	.36	.39	.40	.40	.41	.41
DATE	01	01	01	01	06	06	06	24	24	24	24	24
TIME	1940	1945	1945	1950	1755	1800	1800	1800	1820	1930	1935	1940
SEP	.22	.25	.27	.29	.37	.44	.44	.50	.58	.63	.70	.83
DATE	26	26	26	26	26	26	26	20	20	20	20	20
TIME	1220	1225	1221	1238	1244	1250	1250	1300	1300	1300	1300	1300
OCT	.09	.12	.13	.15	.17	.22	.29	.35	.41	.47	.52	.67
DATE	02	02	02	02	02	16	16	01	01	01	01	01
TIME	1317	1322	1327	1332	1342	1637	1653	2120	2122	2220	2220	2200
NOV	.08	.15	.18	.20	.25	.30	.40	.43	.47	.49	.49	.49
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0015	0039	0040	0030	0030	0045	0045	0045	0045	0045	0045	0045
DEC	.05	.07	.08	.09	.13	.18	.22	.23	.32	.35	.39	.46
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0606	0615	0615	0615	0613	0613	0613	0650	0650	0707	0855	0855
YEAR	.25	.29	.33	.39	.41	.49	.51	.52	.58	.63	.78	.88
MONTH	08	08	07	07	07	09	07	07	09	09	01	01

MAXIMUM SHORT DURATION PRECIPITATION

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

[illegible], [illegible]

	5	10	15	20	30	45	60	80	100	120	150	180
[illegible]	T	[illegible]	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.03	[illegible]	[illegible]
DATE					[illegible]	[illegible]	07	[illegible]	07	07	07	07
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2025	2025
[illegible]	T	[illegible]	[illegible]	.01	.02	[illegible]	[illegible]	[illegible]	[illegible]	.05	[illegible]	.08
[illegible]			23	[illegible]	23	23	23	23	23	23	23	23
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	2000	[illegible]	2000	2000	2000	2000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.48	.57	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26	12	12	12	12	12	12
[illegible]	[illegible]	[illegible]	2112	[illegible]	2130	[illegible]	[illegible]	[illegible]	[illegible]	0137	0210	0247
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.26	.32
[illegible]	[illegible]	20	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	2100	[illegible]	2100	[illegible]	[illegible]	[illegible]	[illegible]	2212	2245
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.67
[illegible]	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]	31	31	31	31	31
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2359	[illegible]	2359	[illegible]	[illegible]	[illegible]	0142	[illegible]
[illegible]	[illegible]	[illegible]	.37	[illegible]	[illegible]	[illegible]	.65	.65	.65	.65	.65	.65
DATE	[illegible]	18	[illegible]	[illegible]	[illegible]	8	08	08	08	08	08	08
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1900	[illegible]	[illegible]	[illegible]	[illegible]	1900	1900
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.96	.97	.97	.97	.97	.97	.97	.97
[illegible]	[illegible]	16	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]	16	16	16	16
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1835	1835	1835	1835	1835
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.57	.57	[illegible]	[illegible]	.57	.57
[illegible]	[illegible]	[illegible]	27	27	[illegible]	27	27	27	[illegible]	27	27	27
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2020	[illegible]	[illegible]	2020	[illegible]	2020	2020	2020
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	06	06	[illegible]	24	24	24	24	24	23	23
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0152	[illegible]	[illegible]	0105	0105	0100	2230	2225
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.22	.26	.29	[illegible]	.43
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	[illegible]	[illegible]	[illegible]	[illegible]	07	07	07
[illegible]	[illegible]	[illegible]	1517	[illegible]	[illegible]	[illegible]	[illegible]	1529	1546	1553	1623	1725
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.23	[illegible]	[illegible]	.36	.39	.40	.44
[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	05	[illegible]	20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1035	1000	1015	1045	1115
[illegible]	[illegible]	.07	[illegible]	[illegible]	[illegible]	.16	.18	.22	.26	.27	.30	.32
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	17	[illegible]	17	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1104	1130	1147	1217	1247
[illegible]	[illegible]	[illegible]	.79	[illegible]	[illegible]	.97	[illegible]	.97	[illegible]	[illegible]	1.10	1.23
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	[illegible]	[illegible]	07	07	07	[illegible]	09

ROCHESTER, MINNESOTA

	5	10	15	20	30	45	60	80	100	120	150	180
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.10	[illegible]	.13	.14
[illegible]	[illegible]	[illegible]	07	[illegible]	07	[illegible]	07	07	07	07	[illegible]	07
[illegible]	[illegible]	[illegible]	2040	[illegible]	[illegible]	[illegible]	2040	[illegible]	[illegible]	[illegible]	[illegible]	2130
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.15	[illegible]	[illegible]	.22
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23	23	[illegible]	23
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1700	1700	[illegible]	1700	[illegible]	1700	1700
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.62	.63
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	27	27	27
[illegible]	[illegible]	[illegible]	[illegible]	0215	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.60	.67	.68
[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	20	[illegible]	20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1930	[illegible]	2010	[illegible]	2110
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	16	[illegible]	[illegible]	16	[illegible]	[illegible]	16	16	16	[illegible]	16
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2000	2007	[illegible]	[illegible]	[illegible]	2007
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.72	[illegible]	[illegible]	.88	.91
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	17	[illegible]	17	17	[illegible]	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0809	0825	0845	0915	0945
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.38	.40
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	19	[illegible]	19
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0900	[illegible]	[illegible]	1900	[illegible]
SEP	[illegible]	.29	.30	.41	.45	.47	.50	.56	[illegible]	[illegible]	[illegible]	.69
[illegible]	[illegible]	17	[illegible]	17	17	17	[illegible]	17	17	17	17	17
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0653	[illegible]	[illegible]	0743	[illegible]	0822	[illegible]	922
[illegible]	.05	[illegible]	[illegible]	.11	[illegible]	.24	[illegible]	.34	.40	[illegible]	.49	.55
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1330	1355	1415	[illegible]	1420	1450
[illegible]	[illegible]	.24	.32	[illegible]	.42	.42	.42	.42	.42	.42	.42	.46
[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20	20	[illegible]	20
[illegible]	1006	[illegible]	[illegible]	[illegible]	1018	[illegible]	[illegible]	[illegible]	1018	1018	1018	1018
[illegible]	[illegible]	[illegible]	.05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.13	[illegible]	.16	.17
DATE	[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1155	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1230	[illegible]	[illegible]	1245
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.65	[illegible]	[illegible]	1.29	[illegible]	[illegible]	1.75
[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	05	05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MERIDIAN, MISSISSIPPI

	5	10	15	20	30	45	60	80	100	120	150	180
[illegible]	[illegible]	[illegible]	.33	[illegible]	[illegible]	.50	.64	.76	.82	.87	.88	.90
[illegible]	[illegible]	9	[illegible]	[illegible]	[illegible]	9	09	[illegible]	09	09	[illegible]	09
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1200	[illegible]	[illegible]	1215	[illegible]	1235	[illegible]
[illegible]	[illegible]	[illegible]	.50	[illegible]	.64	.93	1.18	[illegible]	1.60	1.73	1.75	1.75
[illegible]	[illegible]	26	[illegible]	[illegible]	23	[illegible]	23	[illegible]	[illegible]	23	23	[illegible]
TIME	2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1810	[illegible]	[illegible]	1920	1920
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.18	[illegible]	[illegible]	1.53	[illegible]	1.90	2.00
[illegible]	[illegible]	12	12	12	[illegible]	12	12	12	[illegible]	[illegible]	03	03
[illegible]	[illegible]	0210	0215	[illegible]	[illegible]	0245	0240	[illegible]	2300	[illegible]	2345	2345
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.44
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	21	21	21	21	21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1702	1702	[illegible]	[illegible]	1702
[illegible]	[illegible]	.67	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.19	[illegible]	1.20	1.20
[illegible]	[illegible]	3	23	[illegible]	23	[illegible]	[illegible]	23	23	23	23	23
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1532	1540	1601	1621	1641	1701	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.57	[illegible]	[illegible]	[illegible]	[illegible]	.63	.63
DATE	[illegible]	19	19	[illegible]	[illegible]	[illegible]	19	19	[illegible]	[illegible]	19	19
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1415	1430	1445	1505	1505	[illegible]	1505
[illegible]	[illegible]	[illegible]	.77	.92	[illegible]	[illegible]	1.15	[illegible]	1.20	1.24	1.26	1.35
[illegible]	[illegible]	27	27	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	08	[illegible]	08
TIME	[illegible]	[illegible]	[illegible]	1429	[illegible]	[illegible]	[illegible]	1805	[illegible]	[illegible]	2015	2151
[illegible]	.47	[illegible]	[illegible]	[illegible]	[illegible]	1.38	[illegible]	[illegible]	[illegible]	[illegible]	1.40	[illegible]
[illegible]	[illegible]	15	15	[illegible]	[illegible]	15	[illegible]	15	15	15	[illegible]	15
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1440	1450	[illegible]	1450	1450	1450	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.25	[illegible]	[illegible]	2.06
DATE	[illegible]	15	15	[illegible]	07	[illegible]	[illegible]	[illegible]	[illegible]	06	[illegible]	05
TIME	[illegible]	1225	1225	[illegible]	[illegible]	[illegible]	[illegible]	0630	[illegible]	0700	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	.51	[illegible]	[illegible]	[illegible]	[illegible]	1.11	1.10	[illegible]	1.95
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	25	25	25	25	25	[illegible]
TIME	[illegible]	[illegible]	[illegible]	0502	0512	[illegible]	[illegible]	0602	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	.25	[illegible]	[illegible]	.73	.93	[illegible]	[illegible]	[illegible]	1.22	[illegible]
DATE	2	[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	21	21	21
[illegible]	1107	[illegible]	[illegible]	1114	[illegible]	1114	[illegible]	1135	1155	[illegible]	[illegible]	1315
[illegible]	.29	[illegible]	.36	[illegible]	.39	.39	.40	[illegible]	[illegible]	.40	.40	[illegible]
[illegible]	[illegible]	13	[illegible]	13	13	[illegible]	[illegible]	13	[illegible]	13	[illegible]	13
[illegible]	1832	[illegible]	1842	[illegible]	1852	1852	[illegible]	2032	2032	2032	2032	2032
YEAR	.47	.87	1.13	1.22	1.37	1.38	1.40	1.57	1.60	1.73	1.90	2.06
[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	8	08	02	2	[illegible]	03	09

Maximum precipitation in inches (5 to 180 minutes)

INTERNATIONAL FALLS, MINNESOTA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.02	.03	.03	.04	.04	.05	.05	.06	.07	.08
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	2201	2201	2201	2201	2201	2203	2209	2214	2301	2307	2347	0011
FEB	.02	.04	.05	.06	.08	.09	.11	.15	.18	.19	.24	.25
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1950	1954	1958	2000	2019	2029	2039	2101	2121	2105	2120	2231
MAR	.04	.05	.06	.07	.08	.10	.11	.13	.15	.17	.19	.22
DATE	26	26	26	26	26	26	26	26	26	29	26	29
TIME	1005	1010	1015	1020	1030	1030	1035	1045	1010	1715	1730	2055
APR	.14	.16	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1354	1354	1359	1400	1412	1430	1430	1430	1430	1430	1430	1430
MAY	.30	.43	.48	.52	[illegible]	.95	1.01	1.22	1.22	1.22	1.22	1.22
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1430	1430	1430	[illegible]	1456	1456	1500	1525	1525	1525	1525	1525
JUN	.22	.37	.43	.57	.86	1.11	1.43	1.54	1.58	1.58	1.58	1.63
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	2159	2159	2159	2159	2205	2212	2227	2227	2227	2247	2317	2359
JUL	.14	.16	.18	.22	.27	.32	.39	.42	.44	.46	.46	.46
DATE	16	02	02	02	02	02	02	02	03	03	03	03
TIME	1315	2240	2245	2250	2300	2315	2330	2350	0010	0030	0100	0200
AUG	.13	.20	.23	.26	.31	.39	.45	.53	.62	.65	.73	.73
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1845	1850	1855	1900	1910	1900	1915	1925	1929	1945	2010	2040
SEP	.14	.27	.23	.25	.42	.52	.54	.57	.77	.98	1.17	1.22
DATE	08	8	08	08	[illegible]	18	18	08	08	08	08	08
TIME	1027	[illegible]	1030	1032	[illegible]	1500	1500	1017	1043	1030	1100	1130
OCT	.02	.03	.03	.03	.04	.05	.05	.06	.07	.08	.10	.11
DATE	07	07	07	07	25	26	26	07	07	07	07	07
TIME	0300	0300	0300	0300	2345	0005	0010	0500	0545	0554	0554	0554
NOV	.04	.05	.06	.07	.09	.12	.15	.18	.22	.24	.28	.30
DATE	09	09	09	08	08	8	08	08	08	08	08	08
TIME	1154	1154	1202	0845	0845	0859	0859	0900	0900	1525	1600	1600
DEC	.01	.02	.03	.04	.04	.05	.07	.07	.08	.11	.12	.13
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	[illegible]	1203	1317	1317	1317	1317	1345	1345	1345	1345	1345	1420
YEAR	.30	.43	.48	.57	.86	1.11	1.43	1.54	1.58	1.58	1.58	1.63
MONTH	05	5	05	06	06	6	06	06	06	06	06	06

SAINT CLOUD, MINNESOTA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.02	.02	.03	.04	.05	.06	.07	.07	.08	.09
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1100	1100	1100	1130	1200	1200	1200	1200	1210	1200	1230	1300
FEB	.01	.02	.03	.04	.05	.07	.10	.13	.17	.20	.25	.30
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0855	0855	0855	0855	0855	0855	0855	0855	0855	0855	0855	0855
MAR	.02	.04	.06	.08	.12	.17	.22	.28	.35	.43	.50	.60
DATE	12	11	11	11	11	11	11	11	12	12	12	12
TIME	0045	2315	2315	2315	2315	2315	2315	2314	0001	0002	0045	0045
APR	.36	.48	.52	.59	.62	.67	.70	.73	.77	.77	.77	.77
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1620	1625	1630	1635	1645	1700	1715	1735	1755	1815	1845	1915
MAY	.12	.23	.34	.37	[illegible]	.54	.54	.54	.54	.54	.54	.54
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	2205	2205	0215	0215	0214	[illegible]	0230	0230	0230	0230	0230	0230
JUN	.10	.20	.30	.40	.52	.52	.52	.52	.52	.52	.56	.57
DATE	27	27	27	27	27	27	27	27	27	27	04	04
TIME	1238	1238	1238	[illegible]	1245	1245	1245	1245	1245	1245	2127	2158
JUL	[illegible]	.45	.53	.69	.91	.93	.95	1.26	1.29	1.32	1.43	1.65
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0032	0037	0042	[illegible]	0045	[illegible]	0112	0047	0107	[illegible]	0157	0203
AUG	.36	.59	.68	[illegible]	.92	1.06	1.42	1.73	1.79	1.90	1.98	2.00
DATE	26	26	26	26	26	26	26	26	26	27	27	27
TIME	2210	2215	2220	2225	2235	2250	2305	2325	2345	0005	0035	0105
SEP	[illegible]	.07	.10	.13	.20	.23	.28	.30	.30	.30	.34	.39
DATE	23	23	23	23	23	23	23	23	23	23	21	21
TIME	2058	2058	2058	2058	2058	2058	2058	2130	2130	2130	2330	2330
OCT	.05	.08	.12	.16	.24	.32	.36	.42	.47	.49	.51	.56
DATE	30	30	30	30	30	30	30	30	31	31	31	31
TIME	2316	2317	2317	[illegible]	2330	2352	2359	2357	0017	[illegible]	0107	0137
NOV	.03	.04	.08	[illegible]	.14	.21	.28	.31	.38	.45	.56	.67
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0735	0740	0745	[illegible]	0800	0815	0830	0855	0615	0615	0555	0625
DEC	.03	.06	.08	[illegible]	.14	.15	.17	.18	.21	.23	.27	.32
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	[illegible]	0430	0432	0437	0444	0446	0446	0446	1205	1215	1305	1312
YEAR	.36	.59	.68	[illegible]	.92	1.08	1.42	1.73	1.79	1.90	1.98	2.00
MONTH	08	8	08	08	[illegible]	08	08	08	08	08	08	08

COLUMBIA, MISSOURI

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.05	.07	.08	.10	.13	.15	.19	.23	.25	.26	.26
DATE	04	04	04	04	04	4	04	04	04	04	04	04
TIME	1330	1330	1330	1330	1345	1400	1400	1420	1440	1500	1500	1500
FEB	.04	.08	.10	.13	.17	.19	.24	.29	.34	.37	.40	.40
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0450	0455	0500	0505	0515	0530	0545	0605	0625	0645	0715	0745
MAR	.10	.16	.20	.21	.28	.32	.38	.42	.43	.49	.61	.71
DATE	11	11	11	11	11	11	11	11	11	28	28	28
TIME	1538	1538	1538	1538	1538	1538	1538	1550	1610	0530	0600	0634
APR	.11	.14	.18	.21	.26	.36	.48	.58	.66	.69	.83	.94
DATE	01	23	23	23	23	23	23	23	23	23	23	23
TIME	[illegible]	0850	0850	0850	0850	0850	0850	0850	0850	0850	0850	0905
MAY	.13	[illegible]	.23	.26	.34	.40	.50	.63	.79	.86	.96	1.13
DATE	01	1	01	02	06	02	02	02	02	02	02	02
TIME	0740	0745	0746	0617	1016	0645	0700	0716	0735	0750	0625	0730
JUN	.30	.50	.65	.75	.86	.88	.93	1.01	1.04	1.04	1.04	1.04
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0855	0900	0905	0905	0915	0930	0945	1005	1020	1045	1115	1145
JUL	.22	.36	.48	.58	.67	.69	.71	.86	.87	.89	.91	.91
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0117	0122	0127	0132	0142	0157	0212	0232	0252	0312	0312	0312
AUG	.10	.13	.15	.21	.30	.37	.40	.44	.51	.58	.66	.72
DATE	23	28	28	28	28	28	28	28	28	28	28	28
TIME	0435	0740	0745	1345	1345	1400	1400	1420	1440	1500	1530	1600
SEP	.72	.90	1.14	1.44	1.56	1.77	1.90	1.96	2.06	2.10	2.16	2.16
DATE	03	3	03	03	03	3	03	03	03	03	03	03
TIME	1619	1624	1629	1634	1644	1659	1704	1724	1744	1804	1834	1904
OCT	.09	.12	.14	.16	.22	.29	.35	.45	.54	.65	.77	.90
DATE	24	24	07	07	07	07	07	07	07	07	07	07
TIME	0149	0154	1133	1035	1035	1035	1035	1035	1035	1035	1035	1045
NOV	.12	.16	.17	.18	.19	.20	.20	.22	.23	.30	.33	.33
DATE	09	20	20	20	20	20	20	01	01	01	01	01
TIME	2248	1317	1322	1327	1337	1352	1407	0450	0510	0530	0600	0630
DEC	.03	.03	.04	.05	.08	.10	.13	.16	.20	.22	.24	.27
DATE	04	4	04	04	04	04	04	04	04	04	04	04
TIME	0845	0925	0930	0920	0930	0945	0938	0955	0955	0945	1014	1014
YEAR	.72	.90	1.14	1.44	1.56	1.77	1.90	1.96	2.06	2.10	2.16	2.16
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

Maximum precipitation in inches (5 to 180 minutes)

MINN-ST. PAUL, MINNESOTA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	.10
DATE		07	07	07	07	07	07	07	07	07	07	07
TIME		1730	1730	1735	1745	1745	1800	1822	1840	1900	1930	2000
FEB	.03	.05	.07	.09	.13	.16	.18	.21	.24	.28	.31	.34
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0830	0830	0830	0830	0830	0845	0845	0845	0845	0845	0845	0845
MAR	.05	.06	.07	.08	.09	.12	.13	.14	.17	.19	.24	.27
DATE	29	29	29	29	29	29	29	12	13	13	12	13
TIME	1006	1008	1013	1014	1014	1014	1018	2350	0002	0002	2350	0015
APR	.10	.10	.13	.15	.15	.19	.22	.26	.30	.32	.32	.32
DATE	18	18	18	18	18	13	13	13	13	13	13	13
TIME	1855	1859	1900	1902	1902	0230	0245	0300	0300	0300	0300	0300
MAY	.23	.39	.54	.65	.91	1.00	1.04	1.06	1.07	1.08	1.11	1.12
DATE	30	30	30	30	30	30	30	30	30	30	31	31
TIME	2203	2205	2205	2205	2212	2222	2240	2300	2320	2340	0010	0040
JUN	.28	.32	.42	.42	.42	.45	.45	.46	.60	.69	.77	.86
DATE	04	04	04	04	04	04	04	04	04	04	05	05
TIME	2205	2205	2207	2207	2215	2235	2250	2320	2330	2350	0020	0050
JUL	.30	.57	.69	.80	.93	.97	1.03	1.03	1.03	1.03	1.03	1.03
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0914	0919	0921	0920	0934	0949	1001	1003	1003	1003	1003	1003
AUG	.48	.90	1.22	1.53	2.12	2.52	2.82	3.76	4.12	4.48	4.91	5.98
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	2155	2209	2209	2209	2209	2213	2225	2225	2225	2255	2255	2315
SEP	.22	.24	.40	.41	.44	.46	.59	.64	.78	.85	.93	.95
DATE	23	08	08	08	08	23	23	23	23	23	23	23
TIME	2027	2248	2252	2257	2305	2027	2027	2027	2036	2056	2126	2135
OCT	.05	.08	.10	.12	.17	.24	.30	.39	.44	.48	.52	.56
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	0144	0145	0140	0155	0205	0215	0235	0250	0315	0331	0331	0350
NOV	.11	.12	.14	.15	.17	.18	.18	.20	.20	.22	.23	.24
DATE	2	20	20	20	20	20	20	20	20	20	20	20
TIME	0650	0655	0700	0705	0658	0706	0705	0705	0705	0817	0817	0817
DEC	.02	.03	.04	.04	.05	.07	.10	.13	.16	.18	.20	.22
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0907	0908	0908	0908	0814	0814	0836	0814	0803	0742	0814	0742
YEAR	.48	.90	1.22	1.53	2.12	2.52	2.82	3.76	4.12	4.48	4.91	5.98
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

JACKSON, MISSISSIPPI

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.15	.26	.28	.34	.42	.45	.50	.57	.67	.70	.72	1.04
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0653	0657	0657	0700	0700	0700	0944	0948	0955	1015	1030	0944
FEB	.19	.31	.38	.41	.49	.52	.66	.67	.67	.69	.69	.69
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1706	1711	1716	1721	1731	1746	1801	1821	1901	1921	1951	2001
MAR	.28	.42	.54	.60	.72	.78	.97	1.02	1.25	1.53	1.83	1.95
DATE	03	03	03	11	11	11	11	03	03	03	03	03
TIME	1816	1820	1825	2102	2107	2110	2110	1918	1950	2000	2035	2100
APR	.36	.67	.83	.84	.92	1.04	1.15	1.15	1.15	1.17	1.33	1.37
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1520	1525	1530	1535	1545	1600	1615	1635	1655	1715	1745	1815
MAY	.11	.17	.23	.27	.29	.29	.29	.29	.29	.29	.29	.29
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1418	1430	1428	1433	1435	1441	1441	1441	1441	1441	1441	1441
JUN	.40	.69	.95	1.20	1.33	1.45	1.48	1.50	1.50	1.50	1.50	1.50
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1345	1348	1351	1358	1620	1407	1422	1442	1446	1446	1446	1446
JUL	.38	.79	1.10	1.33	1.64	1.72	1.74	1.74	1.74	1.74	1.74	1.74
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1603	1611	1615	1620	1616	1643	1655	1715	1735	1755	1810	1840
AUG	.17	.29	.37	.46	.52	.60	.64	.67	.70	.73	.76	.76
DATE	18	18	18	18	18	18	18	18	19	18	18	18
TIME	1402	1407	1412	1417	1427	1442	1457	1517	1537	1557	1627	1657
SEP	.31	.61	.63	.64	.66	.68	.70	.72	.74	.75	.80	.85
DATE	28	28	28	28	28	28	28	28	28	28	06	06
TIME	1442	1447	1447	1452	1502	1517	1532	1552	1612	1632	1005	1035
OCT	.24	.35	.40	.46	.54	.74	.81	.83	.92	.95	.96	.99
DATE	02	2	02	02	02	02	02	02	02	02	02	02
TIME	0515	0520	0525	0530	0540	0555	0610	0630	0650	0710	0740	0810
NOV	.21	.41	.59	.70	.94	1.16	1.40	1.57	1.79	1.99	2.12	2.38
DATE	21	21	21	21	21	21	29	29	29	29	29	29
TIME	0905	0910	0915	0920	0930	0945	2254	2330	2345	2350	2354	2358
DEC	.18	.26	.36	.40	.46	.55	.59	.61	.71	.78	.88	.99
DATE	17	24	24	24	24	24	24	13	13	13	13	13
TIME	0503	1959	2000	2005	2015	2030	2044	0402	0422	0442	0512	0542
YEAR	.40	.79	1.10	1.33	1.64	1.72	1.74	1.74	1.79	1.99	2.12	2.38
MONTH	06	07	07	07	07	07	07	07	11	11	11	11

KANSAS CITY, MISSOURI INTL AP

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.02	.03	.04	.06	.08	.09	.10	.11	.12	.13
DATE	04	04	04	04	04	04	04	04	04	06	04	06
TIME	0605	0610	0615	0620	0630	0645	0700	0720	0740	0800	0830	0900
FEB	.14	.19	.24	.28	.32	.42	.43	.44	.44	.44	.44	.44
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0020	0025	0030	0035	0045	0100	0115	0135	0155	0215	0245	0315
MAR	.06	.08	.10	.13	.16	.19	.24	.25	.27	.31	.32	.38
DATE	28	28	28	28	27	27	28	28	28	28	28	27
TIME	0535	0620	0545	0550	0800	0400	0630	0650	0735	0800	0600	0800
APR	.30	.31	.31	.31	.36	.43	.46	.47	.54	.55	.55	.55
DATE	01	01	01	01	20	20	20	20	20	20	20	20
TIME	1702	1707	1712	1717	1615	1630	1645	1630	1640	1700	1730	1800
MAY	.28	.44	.64	.70	.96	1.02	1.03	1.06	1.14	1.64	1.79	1.97
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1705	1710	1715	1720	1730	1745	1800	1820	1840	1900	1930	2000
JUN	.30	.47	.66	.78	.86	.88	.88	.88	.88	.88	1.16	1.17
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0435	0440	0445	0445	0455	0510	0525	0545	0610	0625	0655	0725
JUL	.32	.49	.56	.60	.67	.74	.82	.83	.96	1.05	1.12	1.21
DATE	21	21	21	21	21	21	21	21	11	11	11	11
TIME	1931	1936	1935	1940	1950	2005	2020	2040	0620	0640	0710	0740
AUG	.28	.38	.50	.62	.82	.90	.99	1.00	1.12	1.23	1.32	1.42
DATE	16	16	16	16	05	05	05	05	16	16	16	16
TIME	0205	0210	0215	0220	2345	2345	2345	2345	0340	0400	0430	0430
SEP	.55	.80	.94	1.12	1.30	1.60	1.80	1.95	2.15	2.42	2.60	2.76
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	2030	0040	0045	0050	0100	0115	0130	0150	0155	0115	0145	2130
OCT	.18	.24	.28	.38	.46	.56	.60	.68	.88	1.10	1.15	1.37
DATE	22	23	23	23	23	23	23	22	22	22	22	22
TIME	0205	1650	1655	1700	1710	1725	1740	0320	0340	0500	0530	0600
NOV	.05	.08	.12	.14	.16	.23	.29	.33	.38	.42	.46	.48
DATE	08	8	08	08	08	08	08	08	08	08	08	08
TIME	1800	1805	1800	1800	1815	1800	1815	1835	1855	1915	1930	2000
DEC	.01	.02	.02	.03	.04	.04	.04	.04	.04	.04	.04	.04
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
YEAR	.55	.80	.94	1.12	1.30	1.60	1.80	1.95	2.15	2.42	2.60	2.76
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches 5 to 180 minutes

ST. LOUIS, MISSOURI

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.08	.10	.14	.18	.21	.23	.26	.29	.30	.34	.40
DATE	04	04	04	04	04	04	04	04	04	04	04	05
TIME	1135	1140	1140	1140	1140	1157	1157	1157	1157	1313	1345	1415
FEB	.19	.32	.34	.36	.36	.38	.42	.49	.58	.65	.70	.76
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0838	0903	0843	0848	0858	0912	0933	0953	1013	1033	1103	1120
MAR	.17	.30	.40	.43	.49	.58	.75	.83	.92	1.04	1.34	1.50
DATE	11	11	11	11	11	11	11	11	28	28	28	28
TIME	2000	2009	2014	2019	2029	2044	2059	2119	0408	0428	0458	0515
APR	.16	.19	.20	.20	.20	.20	.20	.20	.20	.22	.26	.30
DATE	01	01	01	01	01	01	01	01	01	21	21	21
TIME	2230	2234	2240	2245	2255	2310	2320	2320	2320	0400	0436	0504
MAY	.22	.30	.31	.34	.37	.53	.53	.56	.56	.56	.56	.58
DATE	29	29	29	29	29	29	29	29	29	29*	29*	29*
TIME	1025	1037	1035	1045	1050	1705	1707	1718	1738	1758	1828	1858
JUN	.29	.57	.68	.77	.90	1.21	1.22	1.22	1.22	1.22	1.22	1.22
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1247	1247	1250	1257	1251	1301	1315	1330	1355	1405	1405	1405
JUL	.45	.80	1.10	1.19	1.32	1.34	1.34	1.35	1.35	1.43	1.48	1.49
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1737	1737	1742	1747	1757	1812	1827	1830	1830	1752	1824	1830
AUG	.56	.94	1.22	1.24	1.30	1.32	1.32	1.32	1.32	1.32	1.33	1.38
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0923	0928	0930	0935	0945	1000	1008	1008	1008	1008	1008	1008
SEP	.17	.27	.36	.42	.48	.53	.54	.54	.58	.64	.82	.90
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1942	1942	1944	1949	1959	2010	2029	2045	2349	2125	2155	2229
OCT	.10	[illegible]	.17	.21	.31	.44	.52	.57	.62	.67	.80	.98
DATE	24	07	07	07	07	07	07	07	07	07	07	07
TIME	0320	1007	1012	1017	1027	1042	1657	1717	1737	1740	1837	1737
NOV	.13	.19	.24	.25	.26	.28	.38	.43	.48	.62	.70	.77
DATE	15	19	15	15	15	15	15	15	15	19	19	19
TIME	1910	0210	1920	1925	1935	2130	2110	2130	2048	2108	2138	2208
DEC	.04	.05	.07	.11	.14	.19	.21	.26	.28	.34	.39	.45
DATE	13	13	13	13	13	13	13	13	09	09	09	09
TIME	1540	1745	1750	1755	1805	1820	1835	1855	0132	0153	0223	0253
YEAR	.56	.94	1.22	1.24	1.32	1.34	1.34	1.35	1.35	1.43	1.48	1.58
MONTH	08	08	08	08	07	07	07	07	07	07	07	08

SPRINGFIELD, MISSOURI

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.03	.04	.06	.08	.09	.10	.12	.14	.15	.17
DATE	09	09	09	09	09	13	09	09	13	09	13	13
TIME	1045	1050	1055	1100	1119	0152	1210	1230	0250	[illegible]	0320	0315
FEB	.03	.06	.07	[illegible]	.13	.16	.20	.25	.27	.30	.35	.38
DATE	23	23	23	20	24	20	23	23	12	12	12	12
TIME	0345	0348	0345	[illegible]	0828	[illegible]	0420	0440	0207	[illegible]	[illegible]	0255
MAR	.20	.30	.38	.44	.50	.56	.61	.62	.62	.63	.63	.63
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1925	1930	1935	1945	1950	2005	2020	2025	2100	2130	2130	2130
APR	.09	.14	.18	[illegible]	.21	.31	.39	.49	.63	.74	.87	.91
DATE	21	21	21	21	21	20	20	20	20	20	20	20
TIME	1013	1008	1018	1023	1033	1059	1714	1734	1754	1805	1835	1905
MAY	.25	.37	.38	.43	.47	.57	.60	.64	.66	.68	.70	.72
DATE	29	29	29	29	01	01	01	01	01	01	01	01
TIME	1006	1011	1016	1021	1405	1420	1435	1410	1430	1450	1520	1532
JUN	.44	.72	.80	.86	.89	.89	.89	.89	.89	.89	.89	.90
DATE	28	28	28	28	28	28	28	28	28	28	28	22
TIME	1035	1040	1038	1043	1053	1108	1120	1120	1120	1120	1120	0315
JUL	.12	.22	.25	.35	.41	.52	.61	.62	.62	.62	.62	.62
DATE	24	24	24	24	10	10	10	10	10	10	10	10
TIME	0757	0807	0807	0810	1230	1405	1220	1240	1300	1320	1350	1420
AUG	.12	.19	.21	.23	.32	.45	.55	.59	.72	.84	.97	1.04
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1405	1409	1440	1415	1425	1440	1455	1515	1525	1545	1615	1645
SEP	.57	.70	.88	.97	1.19	1.25	1.33	1.37	1.40	1.45	1.57	1.60
DATE	27	27	27	26	26	26	26	26	26	26	26	26
TIME	0115	0120	0125	0133	0203	0218	0233	0253	0313	0220	0250	0320
OCT	.22	.34	.40	.41	.43	.50	.59	.62	.62	.62	.62	.62
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2105	2109	2105	2105	2125	2135	2150	2150	2150	2150	2150	2150
NOV	.35	.40	.42	.60	.66	.70	.76	.79	.81	.84	.91	.91
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2020	2024	2028	2028	2028	2047	2045	2105	2115	2115	2115	2115
DEC	.04	.09	.10	.11	.17	.23	.26	.35	.40	.45	.52	.56
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1630	1639	1640	1645	1655	1710	1729	1745	1805	1825	1855	1925
YEAR	.57	.70	.88	.97	1.19	1.25	1.33	1.37	1.40	1.45	1.57	1.60
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

BILLINGS, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.02	.03	.04	[illegible]	.05	.07	.07	.08	[illegible]	[illegible]	[illegible]
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1949	1949	[illegible]	[illegible]	[illegible]
FEB	[illegible]	.02	.02	.02	.02	[illegible]	.03	.03	.03	.03	.03	.03
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	[illegible]	[illegible]	1015	1015	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR	[illegible]	.02	.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	19	19	19	[illegible]	19	19	19	19	19	19	19
TIME	1045	[illegible]	1045	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	.02	[illegible]	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	02	02	02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	2320	2328	2320	2340	2328	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAY	[illegible]	[illegible]	.15	[illegible]	.23	.25	.25	[illegible]	.25	.25	.25	[illegible]
DATE	[illegible]	10	[illegible]	[illegible]	[illegible]	10	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	1732	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN	.08	.11	.11	.12	.13	.16	[illegible]	[illegible]	[illegible]	.13	[illegible]	[illegible]
DATE	04	12	12	12	12	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	[illegible]	.27	.32	.33	.34	.35	.35	.38	.45	.46	.46	.46
DATE	19	19	19	19	19	20	[illegible]	[illegible]	[illegible]	20	[illegible]	[illegible]
TIME	[illegible]	2349	[illegible]	2359	2359	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG	[illegible]	[illegible]	.09	[illegible]	[illegible]	[illegible]	.10	[illegible]	.25	[illegible]	.34	[illegible]
DATE	[illegible]	15	19	15	19	29	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2250	2259	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.24	.24
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1440	1447	1447	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	1510	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	[illegible]	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0835	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	3	[illegible]	[illegible]	[illegible]	3	30	[illegible]	[illegible]	[illegible]	[illegible]	3	3
TIME	0855	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	.14	.27	.32	.33	.34	.35	.35	.38	.45	.46	.46	.46
MONTH	07	07	07	07	07	07	07	07	[illegible]	[illegible]	07	07

GLASGOW, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.02	.02	.03	.04	.05	.06	.07	.07	.07	.07
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1905	1907	1915	2003	1925	1934	1955	1955	2010	2025	2034	2040
FEB	.01	.02	.03	.04	.05	.06	.06	.07	.08	.08	.09	.09
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0135	0132	0135	[illegible]	0140	0150	0205	0220	0245	0303	0303	0303
MAR	.01	.02	.02	.02	.03	.04	.05	.05	.06	.06	.07	.07
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1843	1849	1845	1850	1902	1915	1929	1940	2000	2015	1950	1950
APR	.02	.02	.02	.03	.04	.04	.05	.07	.08	.08	.08	.08
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1950	1950	1950	1950	1950	1950	1950	2008	2012	2012	2012	2012
MAY	.13	.18	.19	.22	.23	.25	.28	.32	.36	.42	.42	.44
DATE	25	25	25	25	25	25	25	17	17	17	17	17
TIME	2131	2139	2131	2131	2132	2154	2155	1337	1349	1347	1430	1513
JUN	.07	.09	.10	.10	.12	.15	.18	.22	.28	.31	.36	.39
DATE	20	20	20	20	20	20	20	20	12	12	12	12
TIME	1711	1714	1721	1726	1736	1748	1802	1755	0545	0604	0627	0633
JUL	.18	.24	.26	.26	.27	.29	.30	.33	.35	.35	.35	.35
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1905	1907	1908	1915	1927	1937	2000	2016	2018	2018	2018	2018
AUG	.04	.05	.05	.05	.05	.05	.05	.05	.06	.07	.09	.10
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1837	1837	1837	1841	1841	1841	1841	1841	2000	2016	2049	2104
SEP	.09	.18	.21	.23	.28	.35	.40	.41	.41	.48	.61	.65
DATE	17	17	17	17	17	17	17	17	23*	23	23	23
TIME	1545	1551	1550	1556	1607	1619	1619	1633	0018	0020	0054	0725
OCT	.03	.04	.05	.06	.09	.11	.14	.18	.19	.20	.24	.29
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	0405	0407	0415	0414	0436	0420	0435	0452	0515	0533	0602	0632
NOV	T	.01	.01	.01	.02	.02	.03	.03	.06	.05	.06	.06
DATE		26	26	26	25	26*	25	25	25	26	26	26
TIME		0010	0010	0010	2330	0007	2320	2330	2345	0015	0012	0038
DEC	.01	.01	.02	.02	.03	.03	.04	.05	.06	.07	.08	.09
DATE	03	29*	03	03	03	16*	16*	03	16	16	16	16*
TIME	1903	1559	1913	1918	1928	0938	1345	2019	1347	1345	1349	1350
YEAR	.18	.26	.26	.26	.28	.35	.40	.41	.41	.48	.61	.65
MONTH	07	07	07	07	09	09	09	09	09	09	09	09

GREAT FALLS, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.02	.03	.04	.05	.06	.08	.09	.10	.11	.12
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1038	1058	1058	1058	1058	1104	1110	1128	1148	1208	1220	1220
FEB	.01	.02	.02	.02	.02	.03	.03	.04	.05	.05	.06	.06
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1035	1049	1045	1110	1110	0718	0730	0747	0747	0800	0835	0905
MAR	.02	.04	.05	.06	.09	.12	.13	.15	.18	.20	.23	.26
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0405	0410	0415	0420	0430	0445	0510	0520	0540	0600	0600	0600
APR	.01	.02	.02	.03	.04	.05	.05	.06	.06	.07	.08	.08
DATE	01	01	01	01	01	01	01	01	01	14	14	14
TIME	0320	0330	0330	0338	0338	0338	0338	0338	0338	0450	0450	0450
MAY	.17	.17	.17	.17	.17	.17	.17	.17	.21	.24	.29	.33
DATE	23	23	23	23	23	23	23	23	14	14	14	14
TIME	0354	0354	0354	0354	0356	0354	0354	0354	2358	2358	2358	2358
JUN	.12	.19	.22	.28	.30	.31	.31	.31	.31	.31	.31	.31
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1648	1650	1650	1655	1700	1705	1705	1705	1705	1705	1705	1705
JUL	.32	.34	.36	.42	.44	.46	.46	.46	.46	.46	.52	.59
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1652	1659	1700	1704	1715	1720	1720	1720	1720	1720	0800	0810
AUG	.09	.11	.12	.13	.13	.16	.20	.20	.26	.29	.30	.30
DATE	27	14	14	14	14	13	13	13	13	13	13	13
TIME	1143	1958	2003	2008	2018	1132	1132	1152	1212	1232	1302	1332
SEP	.07	.10	.13	.14	.22	.25	.26	.28	.30	.31	.32	.33
DATE	17	08	08	08	08	08	08	08	08	08	08	08
TIME	1940	0432	0437	[illegible]	0452	0500	0500	0520	0540	0600	0600	0600
OCT	.03	.03	.04	.04	.04	.05	.06	.07	.10	.10	.12	.15
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1035	[illegible]	2243	2243	2243	2144	2200	2220	2243	2243	1032	1032
NOV	.02	.02	.02	.02	.03	.03	.03	.04	.04	.05	.06	.06
DATE	18	18	18	18	18	18	18	18	18	22	22	22
TIME	1350	1355	1355	1355	1355	1355	1355	1445	1445	1200	1200	1200
DEC	.04	.04	.05	.06	.07	.09	.10	.11	.15	.18	.22	.25
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1625	1629	1630	1633	1645	1645	1645	1645	1645	1645	1645	1645
YEAR	.32	.34	.36	.42	.44	.46	.46	.46	.46	.46	.52	.59
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

HARVE, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.03	.03	.04	.05	.07	.08	.10	[illegible]	[illegible]	[illegible]
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1650	1659	1700	1704	1650	[illegible]	1650	1650	[illegible]	[illegible]	[illegible]	[illegible]
FEB	.01	.02	.02	.03	.03	.03	.03	.03	.04	.04	.04	.05
DATE	23	23	23	23	23	23	23	23	23	23	23	21
TIME	2245	2249	2245	2249	2245	2245	2245	2249	2245	2245	2245	2245
MAR	.03	.05	.09	.10	.12	.14	.18	.22	.25	.31	.34	.40
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0645	0649	0645	0649	0645	0645	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	.02	.03	.03	.03	.03	.03	.03	.03	.03	.03	.04	.04
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1208	1208	1208	[illegible]	1225	[illegible]	1255	[illegible]	1335	1355	1208	1208
MAY	.13	.14	.15	.15	.16	.17	.22	.27	[illegible]	.30	.36	.36
DATE	[illegible]	10	10	10	10	10	19	19	19	19	19	19
TIME	1803	1809	1805	1805	1809	1842	1915	1930	1950	2015	2045	2115
JUN	.06	.10	.12	[illegible]	.17	.18	.18	.18	.18	.18	.19	.19
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0843	0850	0850	[illegible]	[illegible]	0910	0931	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	.01	.02	.02	.03	.03	.04	.05	.05	.07	.08	.09	.09
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0245	0245	0245	0245	0245	0245	0245	0245	0245	0245	0245	0245
AUG	.03	.04	.05	[illegible]	.07	.08	.11	[illegible]	.15	.15	.17	.17
DATE	20	20	20	20	19	20	20	20	20	[illegible]	07	07
TIME	0015	0020	0025	0030	2345	[illegible]	0030	0030	0030	[illegible]	0030	0030
SEP	.03	.05	.06	.06	.10	.11	.16	.19	.21	.23	.26	.28
DATE	28	28	28	28	30	30	30	30	30	30	30	30
TIME	0022	0027	0030	0035	0535	[illegible]	0605	0625	0645	0705	0735	0805
OCT	T	T	T	.01	.01	.02	.02	.02	.03	.04	.04	.05
DATE				01*	01*	01*	01*	01*	01*	01	01	01
TIME				0500	0500	0500	0510	0500	0500	0500	0500	0500
NOV	.02	.04	.04	.05	.06	.07	.11	.13	.15	.17	.19	.22
DATE	30*	30	30	30	30*	30*	25	25	25	25	25	25
TIME	1730	1735	1740	[illegible]	1745	1800	1900	1914	[illegible]	2000	1945	2000
DEC	.02	.04	.05	.06	.08	.13	.16	.20	.26	.29	.35	.39
DATE	15	15	15	15	15	15	15	15	15	16	16	16
TIME	2205	2210	2215	[illegible]	2230	2245	2300	2320	2340	0000	[illegible]	[illegible]
YEAR	.13	.14	.15	.17	.17	.18	.22	.27	.31	.36	.39	.40
MONTH	05	05	05	06	06	06	05	05	05	05	05	05

HELENA, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.03	.03	.03	.03	.05	.05	.07	.07	.07	.08	.09
DATE	18	18	18	18	18	16	16	16	16	16	16	16
TIME	2045	2049	2045	2045	2045	0741	0741	0741	0741	0741	0744	0741
FEB	.01	.01	.01	.01	.02	.02	.03	.03	.04	.05	.05	.06
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1300	1300
MAR	.03	.04	.05	.06	.06	.07	.09	.10	.13	.14	.15	.17
DATE	27	27	27	27	27	01	01	01	01	01	01	01
TIME	0702	0705	0710	0715	0715	1753	1811	1830	1853	1908	1942	2008
APR	.01	.01	.02	.02	.02	.03	.04	.05	.05	.05	.05	.05
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	0752	0752	0752	0752	0752	0752	0752	0752	0752	0752	0752	0752
MAY	.05	.06	.07	.07	.12	.17	.23	.29	.36	.37	.40	.52
DATE	06	06	06	06	14	14	14	14	14	14	14	14
TIME	1919	1924	1925	1930	1826	1841	1900	1900	1900	2130	1900	2220
JUN	.16	.28	.32	.38	.42	.44	.44	.46	.51	.54	.54	.54
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1543	1545	1545	1545	1547	1547	1547	1547	1700	1700	1700	1700
JUL	.08	.12	.14	.16	.18	.23	.30	.33	.37	.43	.48	.54
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0500	0500	0500	[illegible]	0500	0500	0500	0500	0500	0510	0510	0510
AUG	.07	.10	.10	.10	.10	.12	.14	.17	.18	.19	.23	.26
DATE	06	06	06	06	06	30	30	30	30	30	30	30
TIME	1437	1441	1441	1441	1441	0850	0850	0850	0850	0950	0950	0950
SEP	.06	.11	.13	.17	.25	.28	.30	.31	.31	.31	.31	.31
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1730	1737	1730	1745	1757	1805	1825	1835	1835	1835	1835	1835
OCT	.01	.01	.02	.02	.02	.03	.03	.03	.05	.05	.05	.05
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1319	1319	1332	1332	1332	1352	1352	1352	1425	1425	1425	1425
NOV	.03	.04	.04	.04	.05	.06	.07	.07	.08	.09	.10	.11
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0920	0920	0920	[illegible]	0920	0950	0950	0950	0950	0950	1045	1045
DEC	.03	.04	.04	.05	.05	.06	.08	.10	.10	.11	.12	.13
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	2356	1813	1813	1813	1813	1845	1330	1330	1330	1430	1500	1507
YEAR	.16	.28	.32	.38	.42	.44	.44	.46	.51	.54	.54	.54
MONTH	06	06	06	06	06	06	06	06	06	06	06	07*

KALISPELL, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.04	.04	.04	.04	.04	.05	.06	.07	.09	.11	.12
DATE	18	18	18	18	18	18	18	12	12	12	12	12
TIME	1605	1610	1615	1615	1615	1624	1624	1050	1050	1050	1050	1050
FEB	.02	.03	.03	.04	.05	.06	.07	.08	.10	.14	.15	.16
DATE	23	23	23	23	23	23	23	12	12	12	12	12
TIME	1455	1500	1500	1500	1500	1500	1540	1000	1000	1100	1130	1155
MAR	.02	.03	.04	.04	.05	.06	.07	.09	.10	.14	.15	.19
DATE	17	17	17	17	17	19	19	19	19	19	19	19
TIME	1210	1215	1220	1225	1235	0445	0500	0500	0610	0630	0650	0650
APR	.02	.04	.05	.06	.07	.11	.14	.16	.18	.19	.20	.22
DATE	09	09	09	09	09	20	20	09	09	09	09	09
TIME	0025	0029	0025	0025	0035	1230	1230	0030	0030	0030	0030	1300
MAY	.06	.06	.07	.08	.10	.14	.16	.18	.22	.23	.26	.26
DATE	26	26	26	26	26	02	02	02	02	02	02	02
TIME	1855	1900	1905	1905	1915	0600	0615	0610	0610	0615	0645	0700
JUN	.13	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1418	1423	1427	1432	1441	1441	1441	1441	1441	1441	1625	1625
JUL	.16	.29	.30	.33	.34	.34	.35	.47	.47	.47	.47	.47
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1255	1300	1305	1305	1310	1330	1345	1405	1405	1405	1405	1405
AUG	.09	.11	.12	.12	.13	.13	.16	.17	.19	.19	.20	.22
DATE	14	14	14	14	14	14	03	14	14	14	14	14
TIME	0233	0234	0243	0248	0258	0313	1521	0348	0408	0428	0400	0415
SEP	.04	.06	.09	.11	.16	.22	.28	.32	.36	.38	.41	.48
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	2050	2055	2100	2100	2115	2130	2135	2135	2205	2200	2230	2255
OCT	.01	.01	.01	.02	.02	.03	.03	.04	.05	.06	.06	.07
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1340	1340	1340	0540	0540	0540	0540	0540	0540	0540	0540	0540
NOV	.03	.04	.04	.05	.07	.11	.13	.16	.18	.20	.23	.24
DATE	25	25	25	25	18	18	18	18	18	18	18	18
TIME	1641	1641	1641	1645	0032	0045	0100	0100	0108	0128	0132	0152
DEC	.04	.06	.06	.07	.10	.12	.13	.19	.21	.24	.28	.32
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1845	2045	2045	2045	2045	2045	2056	2056	2056	2056	2056	2056
YEAR	.16	.29	.30	.33	.34	.34	.35	.47	.47	.47	.47	.48
MONTH	07	07	07	07	07	07	07	07	07	07	07	09

MISSOULA, MONTANA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.04	.04	.04	.04	.05	.05	.08	.10	.12	[illegible]	.16	.16
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0730	0730	0730	0730	0730	0730	0910	0930	0945	0945	0930	1000
FEB	.01	.02	.02	.02	.02	.02	.02	.03	.03	.04	[illegible]	[illegible]
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	2010	[illegible]	2020	2025	2035	[illegible]	[illegible]	2125	[illegible]	2205	2235	2305
MAR	.03	.05	.06	.07	.08	.09	.10	.11	.12	.14	.16	[illegible]
DATE	09	09	09	19	19	19	19	19	19	19	19	19
TIME	1022	[illegible]	1027	1149	1159	1214	1216	1216	1216	1210	[illegible]	1216
APR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.02	.02	[illegible]	[illegible]	[illegible]	.03
DATE	09	09	09	[illegible]	[illegible]	9	09	09	[illegible]	09	09	09
TIME	[illegible]	0400	0400	0400	[illegible]	[illegible]	[illegible]	0400	0400	[illegible]	[illegible]	0400
MAY	.07	.11	.13	.14	.16	.16	.17	.17	.17	.17	.24	.25
DATE	[illegible]	10	10	10	23	23	23	23	23	23	26	26
TIME	1300	1305	1310	[illegible]	1600	1600	1600	1600	[illegible]	[illegible]	[illegible]	2055
JUN	.06	.09	.11	.13	.18	.22	.23	.27	.29	.29	.29	[illegible]
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1215	1220	1225	1230	1240	1255	1310	1250	1310	1330	1400	1430
JUL	.03	.09	[illegible]	[illegible]	.12	.14	.16	.19	.19	.19	.19	.19
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1557	1557	1602	1607	1617	1632	1647	1707	[illegible]	1728	1728	1728
AUG	.06	.11	.12	.12	.12	.12	.13	.17	.21	.23	.27	.29
DATE	06	06	06	06	06	06	30	30	30	30	30	30
TIME	1040	[illegible]	1050	[illegible]	[illegible]	1120	1445	[illegible]	1525	1545	1545	[illegible]
SEP	.05	.09	.13	.14	.16	.20	.25	.24	.26	.32	.39	.44
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1700	1705	1709	1710	1720	1735	[illegible]	1810	1830	1855	[illegible]	[illegible]
OCT	.03	.04	.06	.06	.07	.09	.12	.13	.14	.15	.15	.16
DATE	30	30	30	30	07	07	07	07	07	07	07	07
TIME	1250	1250	1250	[illegible]	[illegible]	[illegible]	0229	0249	[illegible]	0329	0359	[illegible]
NOV	.01	.02	.02	.02	.03	.04	.06	.08	.09	[illegible]	[illegible]	[illegible]
DATE	26	26	26	26	26	26	22	22	22	22	22	22
TIME	1125	1130	1130	1130	1130	1130	1000	1000	1000	[illegible]	[illegible]	[illegible]
DEC	.03	.04	.05	.06	.07	.09	.12	.14	.15	.19	.21	.21
DATE	06	06	06	06	06	05	06	06	06	06	05	06
TIME	2310	2315	2320	2325	2335	[illegible]	2350	2350	2350	2350	2350	2350
YEAR	[illegible]	.11	.13	.14	.18	.22	.25	.27	.29	.32	.39	.44
MONTH	09	08*	09*	09*	06	06	09	06	06	09	09	09

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

	5	10	15	20	30	45	60	80	100	120	150	180
GRAND ISLAND, NEBRASKA												
JAN	T	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	.09
DATE		04	04	04	04	04	04	04	04	04	04	04
TIME		1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155
FEB	.02	.03	.03	.04	.05	.06	.08	.10	.12	.14	.16	.16
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1120	1120	1120	1120	1120	1120	1120	1120	1200	1200	1200	1200
MAR	.07	.09	.13	.14	.15	.20	.25	.32	.37	.43	.51	.65
DATE	11	11	11	11	19	19	19	19	19	19	19	19
TIME	1231	1758	1758	1758	0830	0845	0900	0900	0900	0900	0900	0900
APR	.80	1.07	1.17	1.19	1.20	1.25	1.28	1.35	1.38	1.46	1.47	1.53
DATE	01	01	01	01	01	01	02	02	02	02	02	02
TIME	2310	2310	2315	2320	2330	2345	0000	0020	0040	0100	0130	0200
MAY	.30	.50	.63	.79	1.22	1.23	1.23	1.26	1.26	1.26	1.26	1.26
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1635	1639	1638	1650	1650	1652	1658	1715	1715	1715	1715	1715
JUN	.30	.55	.70	.75	.76	.76	.76	.76	.76	.76	.76	.76
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1003	1008	1013	1018	1022	1022	1022	1022	1022	1022	1022	1022
JUL	.10	.18	.27	.29	.32	.50	.55	.60	.67	.75	.78	.78
DATE	07	07	07	07	07	10	10	10	10	10	10	10
TIME	1832	1837	1842	1847	1857	0100	0115	0120	0155	0215	0245	0315
AUG	.25	.50	.60	.68	.85	1.10	1.45	2.08	2.30	2.70	3.30	3.45
DATE	03	03	29	29	29	29	29	29	29	29	29	29
TIME	2304	2309	1759	1759	1710	1730	1745	1758	1820	1843	1850	1850
SEP	.73	1.41	▶1.93	2.45	▶3.00	3.55	▶4.40	5.15	5.45	▶5.47	5.50	▶5.90
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	2055	2100	2105	2105	2105	2115	2130	2130	2130	2145	2217	2247
OCT	.11	.15	.19	.22	.32	.46	.55	.63	.67	.74	.85	.89
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0355	0359	0355	0355	0355	0355	0355	0355	0355	0355	0355	0355
NOV	.04	.07	.09	.12	.13	.18	.26	.31	.35	.47	.57	.63
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0815	0820	0825	0830	0840	0850	0910	0920	0930	1000	1000	1045
DEC	.02	.03	.04	.04	.05	.06	.07	.09	.10	.11	.11	.13
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0535	0539	0535	0535	0500	0540	0530	0550	0610	0630	0700	0730
YEAR	.73	1.41	▶1.93	2.45	▶3.00	3.55	▶4.40	5.15	5.45	▶5.47	5.50	▶5.90
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

	5	10	15	20	30	45	60	80	100	120	150	180
LINCOLN, NEBRASKA AP												
JAN	.02	.03	.03	.04	.04	.05	.07	.09	.11	.13	.14	.16
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1235	1240	1245	1245	1245	1245	1245	1245	1315	1335	1330	1400
FEB	.02	.03	.03	.04	.06	.07	.08	.08	.08	.08	.08	.08
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1034	1039	1044	1049	1059	1114	1129	1129	1129	1129	1129	1129
MAR	.05	.09	.10	.15	.20	.26	.33	.41	.46	.53	.61	.67
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0950	0940	0945	0950	1000	0955	1000	1020	1040	1100	1105	1200
APR	.11	.15	.21	.21	.24	.28	.31	.34	.36	.37	.37	.37
DATE	12	12	12	12	20	20	20	20	20	20	20	20
TIME	2032	2037	2042	2047	0830	0845	0845	0845	0845	0910	0910	0910
MAY	.23	.42	.54	.70	.75	.92	1.12	1.26	1.31	1.34	1.43	1.48
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1630	1630	1630	1630	1630	1630	1630	1640	1700	1720	1750	1820
JUN	.05	.07	.08	.09	.13	.18	.22	.26	.31	.35	.42	.48
DATE	17	21	21	21	21	21	21	21	21	21	21	21
TIME	0612	1215	0945	0950	1000	0945	1000	1000	1000	1020	1050	1120
JUL	.23	.40	.58	.68	.89	1.39	1.54	2.13	2.37	2.39	2.43	2.69
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0045	0048	0053	0058	0108	0123	0138	0158	0215	0235	0305	0335
AUG	.31	.59	.86	.97	1.26	1.55	1.63	1.65	1.66	1.80	1.97	2.11
DATE	20	20	20	20	15	15	15	15	15	30	30	30
TIME	1733	1736	1737	1738	2031	2041	2053	2110	2133	2158	2228	2258
SEP	.24	.46	.63	.75	.92	1.10	1.13	1.23	1.24	1.24	1.24	1.24
DATE	02	02	02	02	02	02	03	03	03	03	03	03
TIME	1635	1640	1645	1650	1700	1715	0512	0532	0532	0532	0532	0532
OCT	.09	.10	.12	.14	.18	.23	.28	.39	.47	.54	.65	.73
DATE	01	07	07	07	07	07	07	07	07	07	07	07
TIME	1000	0504	0502	0507	0507	0540	0557	0605	0605	0625	0630	0637
NOV	.05	.08	.11	.14	.17	.23	.30	.33	.38	.40	.51	.55
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1307	1126	1130	1135	1140	1200	1215	1220	1237	1245	1340	1345
DEC	.01	.01	.02	.02	.03	.04	.04	.05	.06	.07	.08	.09
DATE	16	16	16	16	31	31	31	31	31	31	31	31
TIME	1753	1753	1753	1753	1110	1120	1130	1145	1125	1140	1145	1230
YEAR	.31	.59	.86	.97	1.26	1.55	1.63	2.13	2.37	2.39	2.43	2.69
MONTH	08	08	08	08	08	08	08	07	07	07	07	07

	5	10	15	20	30	45	60	80	100	120	150	180
NORFOLK, NEBRASKA												
JAN	T	.01	.01	.01	.02	.02	.03	.03	.04	.05	.06	.06
DATE		19	19	19	19	19	19	19	19	19	19	19
TIME		0505	0515	0510	0520	0535	0550	0610	0630	0650	0720	0720
FEB	.06	.09	.10	.11	.14	.15	.19	.20	.21	.21	.26	.29
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1335	1340	1345	1350	1400	1415	1355	1415	1435	1455	1355	1425
MAR	.06	.12	.14	.17	.21	.26	.35	.45	.48	.50	.64	.68
DATE	10	10	10	10	10	10	10	10	10	10	10	11
TIME	2125	2125	2130	2135	2145	2200	2215	2235	2255	2315	2345	0015
APR	.10	.16	.17	.17	.22	.24	.27	.29	.30	.39	.48	.55
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0343	0348	0353	0359	0408	0423	0438	0458	0518	1100	1130	1100
MAY	.50	.60	.67	.74	.95	1.40	1.55	1.83	1.86	1.91	1.98	2.05
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0304	0309	0309	0309	0329	0339	0354	0410	0430	0445	0515	0545
JUN	.65	.72	.74	.75	.77	.78	.78	.78	.78	.78	.78	.78
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2100	2102	2107	2112	2122	2137	2137	2137	2137	2137	2137	2137
JUL	.35	.65	.81	.97	1.33	1.44	1.55	1.67	1.82	1.90	1.93	1.98
DATE	20	20	20	20	20	20	20	20	20	20	21	21
TIME	2304	2309	2314	2319	2323	2338	2340	2345	2340	2345	0015	0045
AUG	.39	.63	.73	.88	1.22	1.28	1.37	1.39	1.41	1.43	1.43	1.43
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1635	1640	1645	1645	1655	1652	1707	1727	1747	1807	1826	1826
SEP	.26	.38	.43	.44	.45	.45	.46	.46	.46	.46	.46	.46
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1930	1935	1940	1945	1955	2010	2025	2025	2025	2025	2025	2025
OCT	.26	.45	.60	.73	.84	.93	.97	1.01	1.03	1.03	1.03	1.03
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1845	1849	1850	1855	1857	1910	1923	1943	2003	2003	2003	2003
NOV	.07	.11	.13	.15	.19	.23	.27	.30	.33	.37	.40	.45
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1059	1059	1100	1107	1115	1115	1115	1135	1155	1205	1230	1305
DEC	.01	.02	.02	.03	.03	.04	.05	.05	.07	.07	.07	.08
DATE	31	03	03	03	03	03	03	03	03	03	03	03
TIME	1346	0629	0629	0629	0629	0635	0650	0710	0730	0730	0730	0835
YEAR	.50	.72	.81	.97	1.33	1.44	1.55	1.83	1.86	1.91	1.98	2.05
MONTH	05	06	07	07	07	07	07+	05	05	05	05	05

	5	10	15	20	30	45	60	80	100	120	150	180
NORTH PLATTE, NEBRASKA												
JAN	.01	.01	.01	.01	.02	.02	.02	.02	.02	.03	.04	.04
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1140	1140	1140	1140	1210	1210	1210	1210	1210	1315	1410	1410
FEB	.01	.02	.02	.02	.03	.03	.03	.04	.05	.05	.05	.06
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1059	1059	1059	1059	1059	1059	1059	1107	1316	1316	1316	1316
MAR	.06	.10	.13	.17	.23	.26	.32	.34	.39	.43	.48	.53
DATE	21	10	10	10	10	10	10	11	11	11	11	11
TIME	0920	2107	2102	2103	2107	2105	2116	0432	0450	0510	0540	0610
APR	.15	.19	.24	.26	.36	.50	.54	.55	.57	.69	.74	.77
DATE	13	13	14	14	14	14	14	14	14	14	14	14
TIME	2250	2155	2130	2135	2145	2200	2215	2235	2207	2205	2207	2228
MAY	.44	.87	1.16	1.31	1.44	1.49	1.54	1.60	1.65	1.70	1.75	1.77
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	0155	0159	0200	0203	0212	0227	0242	0307	0322	0342	0412	0430
JUN	.23	.33	.35	.37	.49	.54	.60	.70	.73	.75	.77	.79
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0008	0013	0018	0023	0033	0048	0103	0126	0133	0203	0233	0303
JUL	.73	1.00	1.30	1.50	2.08	2.62	2.62	2.62	2.62	2.62	2.62	2.62
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2342	2347	2354	2354	2354	2354	2354	2354	2354	2354	2354	2354
AUG	.09	.16	.18	.22	.30	.35	.37	.40	.40	.40	.40	.40
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	2252	2257	2302	2307	2310	2304	2326	2346	2346	2346	2346	2346
SEP	.12	.17	.22	.23	.24	.25	.27	.36	.37	.50	.51	.51
DATE	08	08	08	08	08	08	08	28	28	28	28	28
TIME	1630	1630	1630	1630	1630	1630	1630	1115	1115	1115	1130	1130
OCT	.02	.03	.04	.04	.04	.05	.06	.07	.08	.08	.08	.08
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	2105	2110	2115	2120	2130	2145	2200	2205	2215	2215	2215	2215
NOV	.02	.03	.05	.06	.09	.10	.12	.14	.16	.17	.18	.19
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0705	0710	0715	0720	0730	0745	0805	0810	0815	0830	0855	0855
DEC	.02	.03	.05	.06	.08	.12	.15	.17	.21	.25	.30	.35
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0944	0944	0944	0944	1059	1112	1127	1148	1155	1133	1130	1200
YEAR	.73	1.00	1.30	1.50	2.08	2.62	2.62	2.62	2.62	2.62	2.62	2.62
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

	5	10	15	20	30	45	60	80	100	120	150	180
OMAHA, NEBRASKA												
JAN	.02	.02	.03	.03	.04	.06	.08	.11	.12	.12	.14	.15
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0635	0643	0545	0550	0600	0645	0630	0645	0713	0730	0800	0830
FEB	.03	.05	.05	.06	.09	.10	.12	.12	.12	.12	.15	.17
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1238	1240	1245	1248	1258	1300	1302	1304	1350	1358	1412	1455
MAR	.03	.05	.08	.11	.15	.22	.30	.35	.38	.46	.53	.59
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1013	1018	1020	1023	1030	1102	1115	1028	1104	1126	1105	1100
APR	.09	.15	.19	.24	.38	.57	.64	.67	.70	.77	.80	.80
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1933	1938	1941	1945	1944	1950	1730	2017	2041	1750	2100	2100
MAY	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
YEAR	.09	.15	.19	.24	.38	.57	.64	.67	.70	.77	.80	.80
MONTH	04	04	04	04	04	04	04	04	04	04	04	04

	5	10	15	20	30	45	60	80	100	120	150	180
OMAHA(NORTH), NEBRASKA												
JUN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
JUL	▶.40	▶.65	▶.75	1.05	▶1.45	1.95	▶2.05	2.20	2.25	▶2.28	2.37	▶2.39
DATE	17	21	21	21	21	21	17	21	21	21	21	21
TIME	0135	0347	0400	0405	0415	0420	0205	0655	0515	0535	0602	0632
AUG	.38	.50	.58	.92	1.14	1.52	1.92	2.05	2.08	2.12	2.13	2.13
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0805	0753	0800	0805	0815	0805	0805	0822	0838	0855	0922	0958
SEP	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
OCT	.10	.15	.17	.26	.33	.45	.55	.65	.85	.93	1.10	1.25
DATE	22	22	22	22	22	22	22	22	22	22	22	23
TIME	0001	2128	2130	2130	2132	2148	2207	2230	2245	2303	2338	0005
NOV	.04	.07	.09	.09	.13	.17	.25	.27	.31	.32	.38	.38
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1315	1317	1318	1318	1315	1315	1300	1300	1430	1430	1430	1430
DEC	.02	.02	.04	.04	.04	.05	.05	.06	.06	.06	.08	.09
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1145	1145	1145	1145	1150	1150	1150	1230	1230	1230	1600	1430
YEAR	▶.40	▶.65	▶.75	1.05	▶1.45	1.95	▶2.05	2.20	2.25	▶2.28	2.37	▶2.39
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

	5	10	15	20	30	45	60	80	100	120	150	180
SCOTTSBLUFF, NEBRASKA												
JAN	.01	.02	.03	.03	.05	.06	.06	.08	.09	.10	.13	.14
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0059	0050	0048	0043	0101	0107	0115	0148	0205	0223	0316	0325
FEB	T	T	T	T	.01	.01	.01	.01	.01	.01	.01	.01
DATE					23	23	23	23	23	23	23	23
TIME					0448	0448	0448	0448	0448	0448	0448	0448
MAR	.04	.08	.10	.13	.17	.19	.26	.32	.42	.46	.54	.65
DATE	27	27	27	27	27	27	28	28	28	28	28	28
TIME	2346	2346	2347	2357	2357	2357	0000	0017	0045	0103	0134	0204
APR	.03	.05	.07	.09	.13	.15	.18	.24	.27	.31	.34	.41
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0715	0720	0830	0835	0835	0845	0900	0920	0940	1000	1030	1000
MAY	.14	.21	.24	.30	.34	.36	.36	.36	.36	.36	.39	.39
DATE	06	06	06	06	06	06	06	06	06	06	03	03
TIME	1607	1615	1615	1615	1616	1630	1630	1630	1630	1630	2247	2247
JUN	.54	.98	1.08	1.14	1.20	1.20	1.21	1.21	1.21	1.21	1.21	1.21
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	2206	2209	2210	2214	2215	2215	2245	2245	2245	2245	2245	2245
JUL	.27	.43	.44	.45	.46	.46	.48	.50	.52	.52	.52	.52
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	2059	2104	2108	2113	2123	2132	2148	2208	2228	2248	2318	2348
AUG	.33	.35	.37	.37	.40	.40	.40	.40	.40	.40	.40	.40
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1711	1716	1721	1726	1736	1746	1801	1821	1831	1831	1831	1831
SEP	.06	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0054	0059	0059	0059	0059	0059	0059	0059	0059	0059	0059	0059
OCT	.02	.03	.03	.04	.05	.07	.08	.08	.08	.08	.08	.08
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	2110	2114	2115	2125	2130	2215	2230	2230	2230	2230	2230	2230
NOV	.04	.05	.06	.06	.07	.10	.11	.13	.18	.18	.18	.18
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1720	1725	1730	1735	1730	1730	1730	1730	1730	1730	1730	1730
DEC	.02	.03	.03	.04	.05	.07	.09	.10	.11	.12	.15	.17
DATE	07	07	07	07	08	08	08	08	08	08	08	08
TIME	2207	2212	2212	2222	0550	0605	0620	0640	0700	0710	0710	0710
YEAR	.56	.98	1.08	1.14	1.20	1.20	1.21	1.21	1.21	1.21	1.21	1.21
MONTH	06	06	06	06	06	06	06	06	06	06	06	06

	5	10	15	20	30	45	60	80	100	120	150	180
VALENTINE, NEBRASKA												
JAN	.01	.01	.02	.02	.02	.02	.02	.03	.03	.04	.05	.06
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
FEB	.01	.02	.03	.03	.04	.05	.07	.10	.12	.14	.18	.20
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0205	0210	0215	0220	0230	0230	0200	0230	0240	0300	0230	0300
MAR	.04	.07	.08	.09	.13	.20	.25	.29	.30	.33	.41	.47
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0550	0600	0015	0014	0025	0037	0750	0714	0140	0200	0230	0300
APR	.06	.09	.10	.11	.14	.18	.26	.30	.30	.32	.38	.38
DATE	11	11	11	11	11	11	11	11	11	11	11	12
TIME	2231	2231	2230	2231	2231	2245	2245	2302	2302	2320	2345	0000
MAY	.32	.50	.65	.67	.70	.70	.70	.70	.78	.84	1.00	1.10
DATE	30	30	30	30	30	30	30	30	07	07	07	07
TIME	1607	1610	1610	1614	1620	1620	1620	1620	0425	0445	0515	0545
JUN	.40	.76	.81	.95	1.00	1.02	1.03	1.03	1.03	1.03	1.03	1.03
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	2222	2227	2230	2231	2231	2245	2259	2315	2325	2329	2339	2359
JUL	.46	.83	1.00	1.14	1.27	1.48	1.53	1.92	1.94	1.96	1.96	1.96
DATE	24	24	24	24	24	24	24	09	09	09	09	09
TIME	1518	1518	1518	1519	1515	1515	1515	1800	1800	1800	1800	1800
AUG	.34	.45	.49	.50	.50	.50	.50	.50	.50	.51	.53	.58
DATE	08	08	08	08	08	08	08	08	08	26	26	26
TIME	2145	2150	2153	2155	2205	2220	2235	2255	2315	0255	0325	0355
SEP	.18	.30	.36	.40	.44	.44	.44	.44	.44	.44	.47	.56
DATE	29	29	29	29	29	29	29	29	30	30	30	30
TIME	2239	2242	2252	2255	2305	2320	2335	2350	0015	0035	0105	0135
OCT	.04	.07	.08	.11	.13	.14	.16	.18	.19	.19	.20	.20
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1735	1741	1746	1751	1800	1815	1830	1840	1905	1925	1930	1930
NOV	.06	.10	.12	.13	.13	.15	.17	.21	.25	.26	.27	.32
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0419	0420	0424	0429	0439	0454	0509	0529	0549	0608	0638	0708
DEC	.01	.02	.03	.04	.06	.08	.11	.14	.16	.20	.24	.26
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1040	1045	1050	1100	1110	1045	1100	1100	1100	1100	1130	1200
YEAR	.46	.83	1.00	1.14	1.27	1.48	1.53	1.92	1.94	1.96	1.96	1.96
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

	5	10	15	20	30	45	60	80	100	120	150	180
ELKO, NEVADA												
JAN	.01	.02	.02	.03	.03	.04	.05	.06	.07	.07	.07	.08
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0810	0800	0800	0800	0800	0800	0800	0800	0820	0830	0830	0830
FEB	.02	.03	.04	.05	.05	.05	.06	.06	.06	.06	.06	.07
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1400	1400	1400	1405	1435	1410	1410	1415	1415	1415	1515	1545
MAR	.01	.02	.02	.03	.03	.03	.04	.04	.04	.04	.04	.04
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1215	1220	1235	1230	1240	1255	1310	1330	1350	1410	1410	1410
APR	.02	.03	.04	.04	.05	.08	.08	.08	.09	.09	.10	.10
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0100	0110	0115	0120	0130	0140	0155	0155	0230	0255	0330	0340
MAY	.06	.10	.11	.12	.12	.13	.14	.14	.14	.15	.15	.19
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1705	1710	1715	1720	1730	1745	1800	1820	1840	1900	1930	2000
JUN	.05	.10	.15	.20	.30	.40	.41	.41	.41	.41	.41	.41
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1546	1548	1550	1551	1553	1559	1610	1630	1635	1655	1727	1815
JUL	.03	.05	.06	.07	.08	.10	.12	.12	.12	.12	.12	.12
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1720	1725	1730	1735	1745	1800	1815	1835	1955	1915	1945	2015
AUG	.02	.03	.04	.05	.05	.06	.08	.10	.12	.14	.15	.16
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1730	1935	1940	1945	1945	1900	1850	1910	1930	1945	2015	2015
SEP	.01	.02	.03	.03	.04	.05	.05	.06	.07	.07	.09	.10
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	2105	2110	2115	2119	2130	2145	2200	2220	2240	2300	2330	2200
OCT	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	2020	2025	2031	2031	2031	2031	2031	2031	2031	2031	2031	2031
NOV	.02	.03	.04	.05	.06	.09	.10	.15	.17	.18	.22	.26
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2205	2210	2215	2220	2230	2245	2300	2320	2340	0000	0000	0000
DEC	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.11
DATE	11	11	11	11	11	11	11	11	11	11	12	12
TIME	2145	2150	2155	2200	2210	2225	2240	2300	2320	2340	0010	0040
YEAR	.06	.10	.15	.20	.30	.40	.41	.41	.41	.41	.41	.41
MONTH	05	06+	06	06	06	06	06	06	06	06	06	06

MAXIMUM SHORT DURATION PRECIPITATION

Ma[illegible] (5 to 180 minutes)

ELY, NEVADA

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.02	.04	.06	.07	.10	.12	.13	[illegible]	.15	.16	.17	.18
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0900	0910	0915	0930	0930	0930	0930	0930
FEB	[illegible]	[illegible]	.01	[illegible]	.01	.01	.02	.02	.02	.03	.03	.03
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1613	[illegible]	1643	[illegible]	1658	1713	1728	1748	1808	1828	1858	1858
MAR	.03	.04	[illegible]	.05	.06	.08	.11	[illegible]	.16	.19	.20	.20
DATE	[illegible]	[illegible]	30	30	30	30	30	30	30	30	30	30
TIME	1532	[illegible]	[illegible]	2138	2148	2208	2218	2225	2230	2245	2245	2245
APR	[illegible]	.01	.02	[illegible]	.03	.03	.03	.03	.03	.04	.04	.04
DATE	[illegible]	02	02	02	02	02	02	02	02	02	02	02
TIME	1532	[illegible]	1558	[illegible]	[illegible]	1732	1757	1805	1815	1840	1920	1952
MAY	[illegible]	[illegible]	.10	.13	.14	.15	.19	.23	.26	.32	.36	.40
DATE	15	15	15	15	15	15	15	15	15	05	05	05
TIME	1722	1734	1739	1744	1754	1759	1815	1825	1845	1810	1840	2035
JUN	.06	[illegible]	.09	[illegible]	.12	.12	.12	.13	.13	.14	.15	.16
DATE	23	23	23	08	08	08	08	08	08	08	08	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1557	1612	1627	1647	1707	1727	1757	1815
JUL	[illegible]	[illegible]	.11	.11	.12	.15	.19	.24	.25	[illegible]	.28	.30
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1746	1748	1753	1758	1808	1823	1848	1908	1928	1948	2018	2048
AUG	[illegible]	[illegible]	.52	.54	.56	.56	.56	.56	.56	.56	.56	.56
DATE	[illegible]	19	19	19	19	19	19	19	19	19	19	19
TIME	[illegible]	[illegible]	1820	1825	1835	1850	1910	1911	1911	1911	1911	1911
SEP	.02	.04	.05	[illegible]	.07	.10	.12	.14	.16	.20	.23	.28
DATE	[illegible]	[illegible]	[illegible]	10	16	16	16	16	16	17	17	17
TIME	[illegible]	[illegible]	2045	[illegible]	[illegible]	2325	2327	2347	2352	0003	0018	0048
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.10	.11	.11	.11	.11	.11	.11
DATE	[illegible]	06	21	21	21	21	21	21	21	21	21	21
TIME	1440	1440	1345	[illegible]	1343	1356	1401	1421	1427	1427	1427	1427
NOV	[illegible]	[illegible]	.03	.04	[illegible]	.09	.11	.13	.16	.17	[illegible]	.19
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	[illegible]	[illegible]	[illegible]	2012	[illegible]	[illegible]	2052	2105	[illegible]	[illegible]	[illegible]	2110
DEC	.03	[illegible]	[illegible]	[illegible]	[illegible]	.15	.18	.21	.24	.20	.28	.32
DATE	17	17	17	17	17	17	17	17	17	18	18	18
TIME	[illegible]	2235	2240	2245	2245	2245	[illegible]	2320	2340	0000	0030	0100
YEAR	[illegible]	[illegible]	.52	.54	.56	.54	.56	.54	[illegible]	.54	.54	.56
MONTH	[illegible]	08	08	08	[illegible]	08	08	08	08	08	08	08

LAS VEGAS, NEVADA

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.02	.03	[illegible]	[illegible]	[illegible]	.07	[illegible]	.08	.08	.08	.08	.08
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0317	0317	[illegible]	0324	[illegible]	0332	[illegible]	0408	0408	0408	0408	0408
FEB	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
DATE												
TIME												
MAR	.02	.02	.02	.02	.03	.04	.05	.06	.07	.08	.09	.11
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	2041	2041	2041	2041	2042	2042	2042	2042	2042	2042	2042	2042
APR	[illegible]	[illegible]	.01	[illegible]	[illegible]	.01	.01	.01	[illegible]	[illegible]	[illegible]	.01
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1011	1011	1011	1011	1011	1011	1011	1011	1011	1011	1011	1011
MAY	.04	[illegible]	.07	.07	.08	.12	.15	[illegible]	.22	.24	.29	.31
DATE	23	09	09	09	23	23	23	23	23	23	23	23
TIME	1614	1827	1832	1832	[illegible]	1757	1750	1726	1711	1711	1614	1614
JUN	[illegible]	[illegible]	.02	[illegible]	.03	.03	.03	.03	.03	.03	.03	.03
DATE	[illegible]	09	09	09	09	09	09	09	09	09	09	09
TIME	1647	[illegible]	1652	[illegible]	[illegible]	1719	1734	1735	1735	1735	1735	1735
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	.23	.34	.38	.42	.50	.57	.65	.69	.75	.81	.93	1.05
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0224	0228	0234	0234	0234	0234	0237	0245	0245	0245	0245	0248
SEP	.04	.04	.04	[illegible]	.05	.07	.08	.08	.09	.09	.09	.09
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	1331	[illegible]	1009	1019	1009	1028	1028	1028	1028	1028	1028
OCT	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0233	[illegible]	0238	0238	0238	0238	0238	0238	0238	0238	0238	0238
NOV	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1441	1441	1441	1441	1441	1441	1441	1441	1441	1441	1441	1441
DEC	.03	.05	.06	.07	[illegible]	.12	[illegible]	.19	.23	.28	.33	.41
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0545	0557	[illegible]	[illegible]	[illegible]	0623	[illegible]	0624	0619	0558	0628	[illegible]
YEAR	.23	.34	.38	[illegible]	.50	.57	.65	.69	.75	.81	.93	1.05
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

RENO, NEVADA

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.09	[illegible]	[illegible]	[illegible]	.13	[illegible]
DATE	02	[illegible]	02	02	[illegible]	02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0630	0645	0600
FEB	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.27	[illegible]	[illegible]	[illegible]	.42
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	0930	[illegible]	0938	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR	[illegible]	[illegible]	[illegible]	.03	[illegible]	.05	[illegible]	.07	.08	.08	.08	.08
DATE	[illegible]	[illegible]	[illegible]	09	[illegible]	09	09	09	[illegible]	09	[illegible]	09
TIME	0928	[illegible]	0932	0932	[illegible]	0932	0932	0945	0945	0945	0945	0945
APR	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
MAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.1	[illegible]	[illegible]
DATE	[illegible]	16	[illegible]	16	[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12
TIME	1450	1450	1450	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN	[illegible]	.04	.05	[illegible]	.08	[illegible]	.15	[illegible]	.24	.27	[illegible]	.33
DATE	[illegible]	18	[illegible]	18	[illegible]	18	18	18	18	18	[illegible]	18
TIME	1950	[illegible]	1955	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	.02	[illegible]	.03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	02	02	02	02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG	T	T	T	T	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE					25	25	25	25	25	25	25	25
TIME					2221	2221	2221	2221	[illegible]	[illegible]	[illegible]	[illegible]
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.14	[illegible]	[illegible]
DATE	27	[illegible]	27	27	[illegible]	27	27	27	[illegible]	27	[illegible]	27
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	21	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	.03	[illegible]	.08	[illegible]	.16	.23	.26	.28	.36	.39	.44	.47
DATE	17	17	17	17	17	17	17	17	[illegible]	[illegible]	22	22
TIME	1245	1245	1245	1245	1245	1245	1245	1245	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	[illegible]	.11	[illegible]	.16	.22	.26	.28	.36	.39	.44	.47
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	12	12	[illegible]	12	12

WINNEMUCCA, NEVADA

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
FEB	[illegible]	[illegible]	.03	[illegible]	[illegible]	.03	.03	.03	.03	[illegible]	[illegible]	[illegible]
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	[illegible]	0735	[illegible]	[illegible]	0815	0839	0855	1300	1300	1300
MAR	[illegible]	.02	.03	[illegible]	[illegible]	.04	.04	.05	[illegible]	[illegible]	.09	[illegible]
DATE	13	13	13	13	13	13	13	09	09	09	09	09
TIME	[illegible]	[illegible]	1530	[illegible]	1545	[illegible]	1545	1120	1140	1200	1230	[illegible]
APR	.05	[illegible]	.14	.17	.18	.20	[illegible]	.20	.20	.20	.20	.20
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1530	[illegible]	1535	[illegible]	1545	1614	1614	1614	1614	1614
MAY	.03	[illegible]	.06	[illegible]	.08	.09	.12	.14	.15	.17	.20	.21
DATE	26	26	26	26	26	26	23	23	23	23	23	23
TIME	[illegible]	[illegible]	[illegible]	1540	1550	[illegible]	2029	2045	2045	[illegible]	2140	[illegible]
JUN	[illegible]	[illegible]	.24	.27	.34	[illegible]	.42	.46	.52	.54	.59	.59
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1944	[illegible]	2014	2034	[illegible]	2114	2144	2214
JUL	.03	.05	[illegible]	[illegible]	.10	[illegible]	.15	.15	.15	.15	.15	.15
DATE	[illegible]	01	01	[illegible]	[illegible]	01	01	01	01	01	01	01
TIME	[illegible]	2011	[illegible]	2021	[illegible]	[illegible]	[illegible]	[illegible]	2140	[illegible]	[illegible]	2300
AUG	.12	[illegible]	[illegible]	.22	.32	.34	.34	.34	.34	.34	.34	.34
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1734	1734	1734	1734	1734	1734	1734	1734	1734	1734	1734	1734
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.10
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	[illegible]	[illegible]	1259	[illegible]	1315	1315	1315	1315	1315	1315	1315	1430
OCT	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
NOV	[illegible]	.04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.23	.26	.32
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	[illegible]	0545	[illegible]	0545	[illegible]	0545	[illegible]	0555	0620	0635	[illegible]	0735
DEC	[illegible]	.07	[illegible]	[illegible]	.13	.16	.19	.21	.24	.24	.26	.26
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	[illegible]	[illegible]	1733	1749	1800	[illegible]	[illegible]	1820	1840	1913	1943
YEAR	.12	[illegible]	.24	.27	.34	.40	.42	.46	.52	.54	.59	.59
MONTH	[illegible]	06	06	06	[illegible]	06	06	06	06	06	06	06

CONCORD, NEW HAMPSHIRE

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.03	.06	.08	[illegible]	.12	.14	.19	.24	.29	.37	.39	.46
DATE	[illegible]	10	[illegible]	[illegible]	[illegible]	10	[illegible]	10	10	10	10	10
TIME	1435	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1440	1440	[illegible]
FEB	[illegible]	.07	.10	[illegible]	.18	.24	.36	.50	.63	.74	.77	.82
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	[illegible]	0227	0232	0242	[illegible]	[illegible]	0332	0352	0412	0432	[illegible]
MAR	.05	[illegible]	[illegible]	[illegible]	.19	[illegible]	.32	.41	.49	.55	.59	.64
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1812	1812	1812	1812	1818	1818	1843	1852	1912	1932
APR	[illegible]	[illegible]	.14	.18	.24	.32	.37	.43	.48	.50	.52	.59
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0553	0613	[illegible]	[illegible]	[illegible]
MAY	.10	[illegible]	.24	[illegible]	.34	.35	.37	.39	.40	.40	.46	.53
DATE	18	18	18	18	18	18	18	18	18	18	[illegible]	[illegible]
TIME	1252	1252	1252	1252	1252	1315	1332	1352	1413	1433	2337	[illegible]
JUN	.15	.24	.29	[illegible]	.29	.36	.40	[illegible]	[illegible]	.90	.95	.98
DATE	02	02	02	[illegible]	[illegible]	25	25	25	25	25	25	25
TIME	1923	[illegible]	1926	[illegible]	1926	[illegible]	2045	[illegible]	[illegible]	[illegible]	[illegible]	2215
JUL	[illegible]	[illegible]	[illegible]	[illegible]	.16	[illegible]	[illegible]	[illegible]	.27	.29	.31	.32
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0932	[illegible]	[illegible]	0941	[illegible]	1002	1017	[illegible]	1049	1102	[illegible]	1117
AUG	[illegible]	[illegible]	.93	[illegible]	1.12	[illegible]	1.15	[illegible]	1.24	1.25	[illegible]	[illegible]
DATE	01	01	01	[illegible]	01	01	01	01	01	01	[illegible]	01
TIME	1319	[illegible]	1322	[illegible]	1335	[illegible]	[illegible]	1425	1445	1505	1535	1605
SEP	.15	.23	.30	[illegible]	.47	[illegible]	.55	.71	.88	.95	1.14	1.20
DATE	26	26	26	[illegible]	26	26	[illegible]	20	20	20	[illegible]	20
TIME	1932	1937	1942	[illegible]	[illegible]	[illegible]	1335	1355	1415	1350	1420	1420
OCT	.07	.10	.16	.19	.28	.37	.43	.50	.57	.69	.78	.93
DATE	01	[illegible]	01	[illegible]	01	01	01	01	01	01	01	01
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0520	[illegible]	[illegible]	[illegible]	0630	0650	[illegible]	[illegible]
NOV	.12	[illegible]	.22	[illegible]	.30	.35	.45	.55	[illegible]	.74	.83	[illegible]
DATE	08	08	08	08	08	08	08	08	08	08	08	09
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2145	[illegible]	2205	2229	2245	2305	2335	0009
DEC	[illegible]	.05	[illegible]	[illegible]	[illegible]	.13	[illegible]	.23	.25	.32	.38	.40
DATE	14	14	14	14	14	14	14	14	01	01	01	01
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0414	0414	0414	0414
YEAR	.41	[illegible]	.73	[illegible]	1.12	1.14	1.15	1.22	1.24	1.25	1.25	1.26
MONTH	[illegible]	08	08	08	08	08	08	08	08	08	[illegible]	09

ATLANTIC CITY, NEW JERSEY

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
FEB	.11	[illegible]	.20	.28	.33	.37	.45	.51	[illegible]	[illegible]	.73	[illegible]
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR	M	[illegible]	M	[illegible]	M	M	[illegible]	M	M	[illegible]	M	[illegible]
DATE							[illegible]			[illegible]		[illegible]
TIME							12[illegible]			[illegible]		[illegible]
APR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	26	[illegible]	26	[illegible]	[illegible]	03	03	03	[illegible]	03	03	[illegible]
TIME	2340	[illegible]	2350	[illegible]	[illegible]	[illegible]	1045	[illegible]	1045	[illegible]	[illegible]	[illegible]
MAY	[illegible]	[illegible]	.14	[illegible]	.20	.23	.24	.25	.25	.25	.25	.25
DATE	[illegible]	06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1645	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1855	1855	[illegible]
JUN	[illegible]	[illegible]	.11	[illegible]	[illegible]	.25	.27	.35	.39	[illegible]	[illegible]	[illegible]
DATE	[illegible]	06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	[illegible]	.86	.94	.97	[illegible]	.98	.98	.98	.98	.98	.98	.98
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG	.47	.68	[illegible]	[illegible]	[illegible]	.82	[illegible]	[illegible]	1.12	[illegible]	1.20	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	03	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0822	[illegible]	[illegible]	1253	1253	[illegible]	1257	[illegible]
SEP	.44	[illegible]	.72	.73	.79	[illegible]	[illegible]	[illegible]	.83	.83	[illegible]	.83
DATE	[illegible]	[illegible]	27	[illegible]	27	[illegible]	27	[illegible]	[illegible]	27	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2237	2252	[illegible]	2332	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	.42	.58	[illegible]	.66	[illegible]	.80	.83	.86	[illegible]
DATE	[illegible]	16	[illegible]	16	[illegible]	09	[illegible]	[illegible]	[illegible]	09	[illegible]	[illegible]
TIME	1735	1739	1735	1739	1620	[illegible]	1620	[illegible]	1620	[illegible]	[illegible]	[illegible]
NOV	.08	[illegible]	.15	[illegible]	.24	[illegible]	.47	.59	.58	[illegible]	.78	[illegible]
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1844	[illegible]	1845	[illegible]	[illegible]	[illegible]	[illegible]	0520	[illegible]	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	.11	[illegible]	.20	.25	[illegible]	.36	.43	.46	.47	[illegible]
DATE	05	05	05	05	[illegible]	05	05	[illegible]	21	21	21	21
TIME	[illegible]	1435	1430	1439	1430	1445	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	.84	.94	.97	.98	.98	.98	1.09	[illegible]	[illegible]	[illegible]	[illegible]
MONTH	07	07	07	07	07	[illegible]	07	08	[illegible]	08	[illegible]	03

NEWARK, NEW JERSEY

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	[illegible]	.05	[illegible]	.08	.10	.14	.18	.23	.29	.33	.36	.40
DATE	[illegible]	10	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1247	[illegible]	[illegible]	[illegible]	0815	0815	0915	[illegible]	[illegible]	1015
FEB	[illegible]	[illegible]	.26	[illegible]	.48	.71	.92	[illegible]	1.18	1.35	1.50	1.59
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1005	1025	1030	[illegible]	1130
MAR	[illegible]	[illegible]	.13	[illegible]	.26	[illegible]	.49	.58	.68	[illegible]	.95	[illegible]
DATE	[illegible]	13	[illegible]	22	22	22	22	22	[illegible]	22	22	22
TIME	[illegible]	[illegible]	1318	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1500
APR	[illegible]	[illegible]	.11	.15	[illegible]	.25	[illegible]	[illegible]	.49	[illegible]	.56	.64
DATE	24	[illegible]	04	[illegible]	[illegible]	[illegible]	05	[illegible]	05	[illegible]	05	05
TIME	1845	2145	2345	0035	0045	[illegible]	[illegible]	[illegible]	[illegible]	0100	[illegible]	[illegible]
MAY	[illegible]	[illegible]	[illegible]	[illegible]	.17	.21	.25	.29	.31	.32	[illegible]	[illegible]
DATE	[illegible]	18	[illegible]	[illegible]	[illegible]	18	18	[illegible]	18	[illegible]	[illegible]	05
TIME	1835	[illegible]	1845	[illegible]	1850	[illegible]	1930	1930	[illegible]	[illegible]	0252	[illegible]
JUN	[illegible]	.25	.39	[illegible]	.51	.55	[illegible]	.58	.64	[illegible]	.74	.81
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	09	09	09	09
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1140	1144	[illegible]	[illegible]	[illegible]	1147	1155	1148
JUL	[illegible]	.25	.29	[illegible]	.36	.39	.40	.44	.46	.48	.49	.50
DATE	25	[illegible]	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	[illegible]	1540	[illegible]	1545	[illegible]	1600	[illegible]	1620	[illegible]	[illegible]	1638
AUG	[illegible]	.87	.99	1.00	1.00	1.00	[illegible]	1.00	[illegible]	[illegible]	1.00	1.00
DATE	[illegible]	[illegible]	07	[illegible]	[illegible]	[illegible]	[illegible]	07	07	07	07	07
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1452	[illegible]	[illegible]	1547	[illegible]	1637	1707
SEP	[illegible]	[illegible]	.22	[illegible]	[illegible]	[illegible]	.43	[illegible]	[illegible]	[illegible]	[illegible]	.86
DATE	29	29	29	[illegible]	29	29	29	29	29	29	29	29
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0407	[illegible]	0400	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	.12	.14	[illegible]	.19	.23	[illegible]	.35	.38	[illegible]	.42
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20	[illegible]	[illegible]	20	20	[illegible]	20
TIME	[illegible]	[illegible]	1930	[illegible]	[illegible]	0415	[illegible]	0432	[illegible]	[illegible]	0600	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	1.00	[illegible]	[illegible]	1.80	2.15	2.30	2.62	2.76
DATE	[illegible]	08	[illegible]	[illegible]	[illegible]	08	[illegible]	[illegible]	08	08	08	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1345	[illegible]	1435	1500
DEC	[illegible]	[illegible]	.10	[illegible]	[illegible]	.23	.27	.37	.43	.50	.57	.60
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	03	03	[illegible]	[illegible]	03	03	[illegible]
TIME	[illegible]	0149	[illegible]	0159	[illegible]	1730	1730	1730	[illegible]	1732	[illegible]	1732
YEAR	[illegible]	[illegible]	.99	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.15	2.30	2.62	2.76
MONTH	[illegible]	08	08	08	[illegible]	11	11	11	11	11	11	11

TRENTON, NEW JERSEY

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.05	[illegible]	[illegible]	[illegible]	.13	[illegible]	.20	.27	.30	.34	.42	.49
DATE	[illegible]	10	10	[illegible]	[illegible]	10	10	10	[illegible]	[illegible]	[illegible]	10
TIME	[illegible]	0752	[illegible]	[illegible]	[illegible]	0752	[illegible]	0807	0824	[illegible]	[illegible]	[illegible]
FEB	.26	[illegible]	.47	[illegible]	[illegible]	.78	.83	.90	.96	[illegible]	1.13	[illegible]
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1845	[illegible]	1854	[illegible]	1906	[illegible]	1935	1955	2015	[illegible]	[illegible]	[illegible]
MAR	[illegible]	.21	.23	.34	[illegible]	.56	.70	.82	.92	[illegible]	1.13	1.27
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1415	[illegible]	1415	1415	1415	1415
APR	[illegible]	[illegible]	.17	[illegible]	.27	.30	.33	.39	[illegible]	[illegible]	.48	.60
DATE	26	26	26	26	26	26	26	26	[illegible]	[illegible]	[illegible]	29
TIME	1543	[illegible]	1549	[illegible]	[illegible]	[illegible]	1634	[illegible]	[illegible]	[illegible]	[illegible]	1830
MAY	[illegible]	.11	.12	[illegible]	[illegible]	.15	.17	.23	[illegible]	.26	.27	.28
DATE	[illegible]	18	18	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	05	[illegible]	05
TIME	1844	[illegible]	1845	[illegible]	[illegible]	2359	1935	[illegible]	2000	[illegible]	2054	[illegible]
JUN	.25	[illegible]	.40	.51	.70	.83	.88	.91	.99	1.02	[illegible]	[illegible]
DATE	[illegible]	28	28	[illegible]	[illegible]	28	[illegible]	28	[illegible]	28	[illegible]	09
TIME	1858	[illegible]	[illegible]	[illegible]	1911	[illegible]	1934	1953	2015	[illegible]	[illegible]	[illegible]
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.56	[illegible]	1.88	[illegible]	[illegible]	[illegible]
DATE	[illegible]	12	[illegible]	12	12	[illegible]	12	12	[illegible]	[illegible]	[illegible]	12
TIME	0844	[illegible]	0845	0849	[illegible]	[illegible]	[illegible]	0857	[illegible]	0915	0915	0915
AUG	[illegible]	[illegible]	[illegible]	[illegible]	1.40	1.66	1.81	1.84	1.86	1.86	2.16	2.21
DATE	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	[illegible]	01
TIME	[illegible]	[illegible]	1021	[illegible]	1637	1649	[illegible]	[illegible]	[illegible]	1715	[illegible]	[illegible]
SEP	[illegible]	[illegible]	.79	[illegible]	[illegible]	1.08	1.23	[illegible]	[illegible]	1.26	1.27	[illegible]
DATE	[illegible]	19	19	[illegible]	[illegible]	19	19	[illegible]	[illegible]	19	[illegible]	19
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2137	2135	[illegible]	[illegible]	[illegible]	2244	[illegible]	2347
OCT	[illegible]	[illegible]	.12	[illegible]	[illegible]	.19	.21	.25	.29	[illegible]	.36	[illegible]
DATE	[illegible]	[illegible]	[illegible]	14	14	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	09
TIME	[illegible]	[illegible]	2313	1922	[illegible]	[illegible]	[illegible]	2348	[illegible]	2348	[illegible]	0123
NOV	[illegible]	[illegible]	.13	[illegible]	[illegible]	.32	[illegible]	.51	[illegible]	[illegible]	[illegible]	.75
DATE	[illegible]	[illegible]	07	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	[illegible]	07
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2041	[illegible]	[illegible]	[illegible]	0945	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	.25	.29	.33	.38	.48	[illegible]	[illegible]	[illegible]
DATE	21	[illegible]	21	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	21	21
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0750	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	[illegible]	.82	[illegible]	1.40	1.66	1.81	1.84	1.88	1.88	2.16	2.21
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	[illegible]	08

ALBUQUERQUE, NEW MEXICO

	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	[illegible]	[illegible]	[illegible]	[illegible]	.17	.24	.26	.29	.30	[illegible]	.32	.34
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	25	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2155	2210	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	[illegible]	[illegible]	.22	[illegible]	[illegible]	.32	[illegible]	.34	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	[illegible]	[illegible]	.22	[illegible]	[illegible]	[illegible]	[illegible]	.23	.23	[illegible]	.20	[illegible]
DATE	[illegible]	14	14	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1930	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG	[illegible]	[illegible]	.33	[illegible]	[illegible]	.52	.53	.54	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	2359	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	.52	[illegible]	[illegible]	.69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	[illegible]	.52	[illegible]	[illegible]	.69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

CLAYTON, NEW MEXICO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
FEB	T	T	T	T	T	T	.01	.01	.02	.02	.02	.02
DATE							25	25	25	25	25	25
TIME							1700	1900	1000	1000	1000	1000
MAR	.02	.03	.03	.03	.04	.06	.06	.07	.08	.09	.10	.10
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1400	1400	1400	1400	1400	1500	1500	1500	1500	1600	1600	1600
APR	.09	.15	.17	.17	.19	.24	.30	.35	.45	.45	.46	.46
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1900	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
MAY	.20	.30	.31	.35	.43	.47	.47	.47	.48	.48	.48	.48
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2100	2100	2100	2100	2100	2100	2100	2100	2200	2200	2200	2200
JUN	.05	.07	[illegible]	[illegible]	.12	.15	.18	.21	.22	.25	.25	.26
DATE	23	23	23	23	20	20	20	24	24	24	24	24
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1900	1900	1900	[illegible]	1900	2000	2000	2000
JUL	.12	.40	.45	.52	.55	.55	.57	.58	.60	.60	.60	.60
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
AUG	.18	.35	.39	.42	.46	.49	.50	.50	.50	.90	.90	.90
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2100	2100	2100	2100	2100	2100	2200	2200	2200	2200	2200	2200
SEP	.13	.16	.18	.24	.31	.31	.31	.31	.31	.31	.31	.31
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1500	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
OCT	T	T	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE			06	06	06	06	06	06	06	06	06	06
TIME			1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
NOV	T	T	.02	.02	.03	.03	.04	.05	.06	.06	.07	.07
DATE			07	07	07	07	07	07	07	07	07	07
TIME			1300	1300	1400	1400	1400	1400	1400	1500	1500	1500
DEC	.01	.02	.03	.04	.05	.06	.06	.06	.06	.06	.06	.06
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0900	0900	0900	0900	0900	0900	0900	0900	0900	0900	0900	0900
YEAR	.22	.40	.45	.52	.55	.55	.57	.58	.60	.60	.60	.60
MONTH	07	07	07	07	07	07	07	07	07	07	07	07

BINGHAMTON, NEW YORK

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.06	.07	.07	.08	.10	.13	.14	.16	.17
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0040	0045	0045	0045	0107	0114	0145	0150	0214	0227	0300	0328
FEB	.06	.07	.08	.09	.12	.14	.17	.18	.19	.20	.22	.30
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	2100	2100	2105	1835	1835	1835	1910	1905	1925	1945	2015	2100
MAR	.03	.04	.07	.08	.12	.16	.20	.23	.29	.34	.42	.49
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0835	0845	0845	0845	0900	0915	0930	0950	1505	1500	1530	1600
APR	.07	.10	[illegible]	.11	.15	.18	.22	.28	.37	.42	.52	.59
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0445	0450	0450	0455	[illegible]	0255	0310	0330	0345	0405	0445	0510
MAY	.11	.11	.12	.12	.15	.19	.23	.25	.32	.38	.44	.50
DATE	18	18	18	18	04	04	04	04	04	04	04	04
TIME	1840	1840	1845	1845	2316	2331	2340	2320	2325	2320	2335	2359
JUN	.19	.24	.26	.27	.36	.40	.42	.43	.43	.43	.44	.44
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0835	0840	0840	0845	0837	0837	0900	0920	0920	0920	0940	0940
JUL	.40	.45	.48	.52	.54	.54	.60	.91	1.05	1.08	1.12	1.12
DATE	05	05	05	05	05	05	25	25	25	25	25	25
TIME	1015	[illegible]	1025	[illegible]	1040	1040	0930	0950	1010	1030	1100	1130
AUG	[illegible]	.50	.51	.53	.68	.72	.73	.73	.73	.73	.73	.73
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1035	1040	1045	1045	1100	1115	1130	1130	1130	1130	1130	1130
SEP	.13	.14	.23	.26	.31	.39	.48	.65	.77	.86	.92	.99
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0245	0250	0250	0255	0300	0300	0300	0300	0300	0300	0300	0300
OCT	.04	.07	.10	.13	.17	.23	.28	.36	.40	.43	.49	.52
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1455	1500	1505	1510	1520	1515	1530	1550	1558	1558	1558	1558
NOV	.06	.10	.11	.15	.22	.30	.39	.48	.56	.63	.71	.74
DATE	11	11	11	08	08	08	08	08	08	08	08	08
TIME	1615	1620	1625	0230	0230	0245	0300	0315	0335	0345	0405	0430
DEC	.04	.08	.10	.11	.17	.19	.22	.25	.34	.39	.45	.48
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1535	[illegible]	[illegible]	1235	1250	1250	1250	1250	1250	1300	1315	1400
YEAR	.40	.50	.51	.53	.68	.72	.73	.91	1.05	1.08	1.12	1.12
MONTH	07	08	08	08	08	08	08	07	07	07	07	07

NEW YORK, NEW YORK J.F.K.

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.11	.21	.23	.26	.29	.38	.44	.55	.69	.76	.86	1.00
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1000	0910	0910	0926	0936	0951	1000	1000	1000	1000	1000	1000
FEB	.20	.30	.34	.38	.48	.50	.60	.70	.87	.94	1.08	1.15
DATE	24	24	24	24	24	24	24	24	24	24	25	25
TIME	2305	2305	2305	2305	2305	2305	2314	2314	2317	2335	0010	0015
MAR	.09	.13	.17	.19	.27	.38	.49	.56	.73	.91	.95	1.18
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1505	1510	1510	1515	1515	1600	1610	1600	1600	1600	1600	1600
APR	.09	.13	.16	.19	.24	.27	.34	.42	.48	.54	.59	.61
DATE	24	24	24	05	24	05	05	05	05	05	05	05
TIME	1855	1900	1905	2310	1915	2315	2315	2315	2315	2315	2315	2315
MAY	.22	.33	.37	.39	.40	.41	.43	.45	.45	.45	.45	.45
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1920	1920	1925	1930	1940	1955	2010	2020	2020	2020	2020	2020
JUN	.14	.17	.22	.27	.29	.35	.39	.40	.41	.41	.42	.52
DATE	20	20	20	20	20	20	20	20	20	20	25	25
TIME	1938	1943	1948	1953	2003	2015	2035	2040	2040	2040	2130	2130
JUL	.18	.29	.40	.44	.53	.50	.60	.62	.64	.64	.71	.98
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1355	1355	1355	1359	1400	1415	1430	1450	1510	1530	1600	1630
AUG	.49	.53	.53	.54	.57	.59	.59	.59	.60	.64	.64	.64
DATE	06	06	06	04	04	04	04	04	04	04	04	04
TIME	1650	1655	1700	0420	0430	0440	0440	0440	0440	0440	0440	0440
SEP	.53	.84	1.07	1.08	1.30	1.32	1.32	1.32	1.32	1.32	1.32	1.32
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1900	1905	1905	1905	1905	1920	1920	1920	1920	1920	1920	1920
OCT	.14	.24	.28	.28	.32	.34	.36	.36	.36	.36	.38	.46
DATE	02	02	02	02	02	02	02	02	02	02	20	20
TIME	1050	1055	1100	1100	1105	1105	1105	1105	1105	1105	0535	0615
NOV	.06	.13	.15	.23	.29	.33	.42	.50	.58	.81	.96	1.07
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0750	0755	0800	0320	0230	0245	0400	0600	0400	0600	0430	0500
DEC	.05	.09	.12	.15	.18	.28	.32	.42	.46	.52	.62	.66
DATE	05	05	21	05	05	05	05	05	05	05	05	05
TIME	1720	1725	1115	1735	1730	1745	1745	1745	1745	1745	1745	1745
YEAR	.53	.84	1.07	1.08	1.30	1.32	1.32	1.32	1.32	1.34	1.32	1.32
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

ROSWELL, NEW MEXICO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.01	.01	.01	.02	.02	.03	.03	.03	.03	.03	.03
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0020	0025	0030	0035	0045	0045	0045	0045	0045	0045	0045	0045
FEB	.04	.05	.06	.07	.09	.10	.12	.12	.14	.16	.18	.18
DATE	02	10	10	10	10	10	02	10	10	10	10	10
TIME	1608	1025	1030	1030	1045	1045	1700	1045	1045	1045	1045	1045
MAR	.02	.02	.03	.03	.04	.06	.07	.07	.09	.10	.11	.12
DATE	26	26	26	26	26	26	26	26	26	26	26	27
TIME	2220	2230	2230	2235	2250	2300	2315	2315	2250	2310	2345	0010
APR	.06	.11	.13	.15	.18	.18	.18	.23	.27	.34	.37	.45
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1059	1058	1100	1058	1110	1100	1100	0645	0740	0715	0815	0845
MAY	.39	.78	.81	.96	1.26	1.45	1.51	1.52	1.52	1.52	1.52	1.52
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1520	1525	1530	1530	1535	1545	1600	1620	1620	1620	1620	1620
JUN	.04	.04	.05	.05	.06	.06	.06	.06	.06	.06	.07	.07
DATE	09	24	24	25	28	28	28	28	28	28	24	24
TIME	1313	1730	1735	2230	2230	2230	2230	2230	2230	2230	1930	2000
JUL	.16	.32	.37	.40	.43	.44	.44	.44	.44	.44	.44	.44
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1913	1919	1916	1920	1935	1945	1956	1956	1956	1956	1956	1956
AUG	.40	.71	.82	1.10	1.56	1.72	2.10	2.40	2.70	2.90	3.10	3.10
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1255	1250	1250	1300	1300	1305	1315	1320	1320	1325	1430	1430
SEP	.05	.09	.10	.13	.15	.16	.16	.16	.16	.16	.16	.16
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	2050	2059	2055	2103	2115	2125	2130	2135	2205	2205	2205	2205
OCT	.32	.42	.42	.42	.42	.42	.42	.42	.42	.42	.43	.43
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1945	1947	1955	2000	2010	2035	2025	2025	2025	2025	2205	2235
NOV	.05	.10	.11	.13	.16	.17	.19	.22	.30	.37	.43	.45
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0443	0445	0445	0449	0445	0510	0535	0645	0630	0630	0700	0730
DEC	[illegible]	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1625	1637	1640	1645	1650	1650	1650	1650	1650	1650	1650	1650
YEAR	.40	.78	.82	1.10	1.56	1.72	2.10	2.40	2.70	2.90	3.10	3.10
MONTH	08	05	08	08	08	08	08	08	08	08	08	08

BUFFALO, NEW YORK

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.04	.05	.06	.09	.10	.11	.16	.18	.19	.21	.23
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0945	0945	0945	1005	1015	1015	1030	1050	1050	1050	1105	1105
FEB	.01	.02	.03	.03	.04	.05	.06	.07	.08	.09	.10	.13
DATE	24	24	24	24	24	24	12	12	12	12	12	12
TIME	1510	1510	1510	1520	1530	1545	1940	1945	1945	2000	2000	2000
MAR	.04	.06	.07	.08	.12	.16	.21	.24	.27	.32	.36	.39
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0235	0235	0235	0250	0250	0317	0317	0317	0317	0317	0317	0350
APR	.07	.10	.12	.13	.15	.20	.23	.25	.28	.31	.37	.44
DATE	02	02	02	02	22	22	22	22	23	23	23	23
TIME	2303	2305	2310	2308	2150	2205	2215	2235	1505	1525	1635	1700
MAY	.14	.27	.31	.32	.37	.41	.48	.52	.53	.53	.53	.53
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	2259	2300	2302	2305	2310	2325	2340	2355	2355	2355	2355	2355
JUN	.11	.27	.27	.31	.49	.62	.69	.80	.85	.88	.92	.95
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0740	0740	0740	0745	0755	0810	0825	0845	0905	0925	0935	0935
JUL	.32	.40	.45	.53	.53	.55	.55	.55	.55	.55	.55	.61
DATE	31	31	31	31	31	31	31	31	31	31	31	29
TIME	1805	1810	1815	1820	1830	1845	1900	1920	1940	2000	2030	1915
AUG	.62	.90	.91	.98	1.06	1.08	1.42	1.86	1.86	1.90	1.90	2.00
DATE	16	16	16	08	08	16	16	16	16	16	16	06
TIME	2035	2035	2040	1445	1455	2110	2125	2145	2145	2215	2215	1120
SEP	.26	.42	.60	.70	.84	.96	1.04	1.16	1.20	1.28	1.38	1.40
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0555	0600	0600	0605	0615	0620	0635	0655	0655	0655	0655	0730
OCT	.06	.09	.11	.16	.22	.23	.31	.33	.35	.40	.47	.49
DATE	04	09	09	09	09	09	09	09	09	12	09	09
TIME	0520	0515	0520	0525	0535	0545	0530	0545	0610	1030	0700	0730
NOV	.06	.10	.12	.14	.16	.17	.23	.26	.29	.31	.35	.40
DATE	11	11	11	11	11	11	10	10	10	10	10	10
TIME	1145	1150	1155	1200	1210	1225	1415	1415	1445	1430	1445	1445
DEC	M	M	M	M	M	M	.48	.48	.51	.60	.70	.78
DATE							02	02	09	09	09	09
TIME							1900	1900	1250	1250	1250	1250
YEAR	.62	.90	.91	.98	1.06	1.08	1.42	1.86	1.86	1.90	1.90	2.00
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

NEW YORK, NEW YORK LA GUARDIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.10	.12	.15	.24	.32	.44	.54	.67	.75	.89	.96
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0829	0831	0833	0840	0850	0903	0916	0920	0930	0930	0938	1015
FEB	.18	.31	.32	.37	.40	.45	.49	.71	.78	.84	.95	1.00
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	2240	2240	2245	2245	2300	2313	2315	2248	2248	2330	2330	2330
MAR	.14	.24	.32	.37	.53	.67	.83	1.01	1.22	1.38	1.56	1.70
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1544	1549	1552	1550	1555	1601	1600	1632	1645	1645	1645	1700
APR	.09	.17	.19	.21	.25	.28	.32	.36	.51	.55	.67	.74
DATE	04	04	04	05	05	05	05	05	05	05	05	05
TIME	2314	2347	2347	0003	0003	0003	0003	0003	0045	0045	0045	0045
MAY	.27	.41	.45	.62	.65	.66	.66	.66	.66	.66	.66	.66
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1555	1555	1555	1555	1555	1610	1610	1610	1610	1610	1610	1610
JUN	.10	.17	.19	.20	.22	.26	.32	.36	.38	.38	.38	.38
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1855	1855	1900	1905	1915	1930	1950	2005	2015	2015	2015	2015
JUL	.10	.14	.17	.19	.33	.40	.41	.45	.47	.48	.50	.50
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1145	1149	1145	1145	1615	1615	1630	1615	1640	1700	1730	1730
AUG	.34	.56	.68	.68	.68	.68	.68	.68	.71	.75	.79	.83
DATE	07	07	07	07	07	07	07	07	22	22	22	22
TIME	1445	1449	1448	1448	1448	1448	1448	1448	0525	0525	0525	0525
SEP	.14	.16	.17	.21	.26	.34	.44	.56	.60	.71	.92	1.01
DATE	26	26	16	16	25	25	25	25	25	25	25	25
TIME	1512	1527	2033	2033	0430	0430	0430	0430	0430	0430	0430	0430
OCT	.22	.37	.39	.44	.48	.50	.51	.51	.53	.56	.62	.68
DATE	19	19	19	19	19	19	19	19	19	09	09	09
TIME	1422	1427	1432	1437	1447	1502	1517	1537	1557	1000	1015	1100
NOV	.10	.19	.20	.24	.32	.41	.61	.67	.75	.76	.86	1.14
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1300	1300	1245	1300	1315	1330	1345	1405	1430	1445	1515	0930
DEC	.06	.09	.12	.16	.19	.23	.30	.40	.44	.50	.58	.64
DATE	21	01	05	05	05	21	05	05	05	05	01	01
TIME	1127	0215	1740	1740	1745	1127	1735	1746	1800	1800	0315	0315
YEAR	.34	.56	.68	.68	.68	.68	.83	1.01	1.22	1.38	1.56	1.70
MONTH	08	08	08	08	08	08	03	03	03	03	03	03

ALBANY, NEW YORK

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.05	.05	.06	.08	.10	.11	.13	.14	.16	.18	.21
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1540	1540	1540	1540	1540	1540	1600	1600	1620	1050	1050	1050
FEB	.06	.10	.13	.15	.21	.26	.35	.49	.55	.61	.71	.79
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0105	0110	0115	0120	0130	0130	0130	0130	0130	0140	0130	0130
MAR	.06	.08	.09	.11	.16	.20	.24	.27	.35	.41	.47	.49
DATE	13	13	13	13	04	04	04	13	13	13	14	14
TIME	2205	2200	2215	2220	2155	2210	2225	2310	2330	2355	0005	0035
APR	.06	.10	.11	.13	.18	.22	.29	.32	.33	.37	.47	.53
DATE	24	24	24	24	24	24	24	24	24	23	23	23
TIME	0535	0539	0535	0540	0555	0610	0625	0640	0705	2145	2215	2245
MAY	.06	.07	.09	.11	.17	.22	.25	.29	.30	.31	.35	.38
DATE	07	08	18	18	18	18	19	19	19	09	09	09
TIME	1345	2340	2345	2350	2355	2355	0000	0010	0030	0520	0555	0605
JUN	.21	.26	.32	.41	.43	.43	.45	.46	.47	.48	.49	.52
DATE	18	20	20	20	20	20	20	20	20	20	20	20
TIME	1207	1737	1740	1743	1748	1803	1818	1838	1858	1918	1948	2018
JUL	.29	.58	.60	.61	.62	.63	.63	.63	.63	.63	.63	.63
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1735	1740	1745	1750	1800	1815	1825	1845	1905	1925	1945	2005
AUG	.28	.43	.46	.58	.63	.67	.72	.77	.84	.91	.97	.99
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1923	1928	1933	1943	1948	2003	2018	2038	2058	2118	2148	2218
SEP	.43	.85	.86	.86	.86	.86	.86	.86	.86	.86	.87	.87
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1615	1620	1625	1630	1640	1655	1710	1730	1750	1810	1840	1910
OCT	.07	.12	.16	.19	.21	.30	.40	.52	.61	.68	.84	.95
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0335	0339	0340	0345	0355	0345	0345	0345	0345	0345	0345	0345
NOV	.09	.16	.19	.21	.31	.33	.33	.35	.47	.61	.63	.65
DATE	10	10	10	17	10	10	10	10	11	11	11	11
TIME	2245	2245	2245	1435	2300	2315	2330	2350	0010	0030	0100	0130
DEC	.04	.07	.08	.10	.14	.18	.24	.28	.34	.39	.45	.49
DATE	25	05	05	05	05	05	05	05	05	05	05	05
TIME	1025	1520	1520	1520	1520	1525	1525	1525	1535	1540	1540	1540
YEAR	.43	.85	.86	.86	.86	.86	.86	.86	.86	.91	.97	.99
MONTH	09	09	09	09	09	09	09	09	09	08	08	08

NEW YORK CENTRAL PARK, NEW YORK

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.08	.10	.15	.22	.30	.40	.47	.57	.67	.77
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0705	0710	0715	0735	0750	0840	0900	0915	0845	0900	0920	1000
FEB	.15	.18	.25	.29	.35	.51	.60	.83	1.00	1.10	1.22	1.26
DATE	24	24	24	24	24	24	24	24	24	24	24	25
TIME	2230	2240	2245	2250	2300	2245	2300	2240	2300	2300	2300	0001
MAR	.08	.16	.24	.29	.41	.52	.75	.76	.99	1.20	1.50	1.65
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1600	1600	1600	1600	1600	1545	1600	1520	1540	1600	1630	1700
APR	.08	.19	.20	.21	.25	.32	.43	.56	.63	.67	.73	.88
DATE	05	04	05	05	05	05	05	05	05	05	05	05
TIME	0155	2359	0005	0005	0015	0015	0045	0105	0125	0145	0150	0200
MAY	.19	.20	.25	.40	.47	.47	.48	.48	.48	.48	.48	.48
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1540	1540	1545	1550	1550	1600	1615	1620	1615	1615	1615	1615
JUN	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
JUL	.11	.17	.22	.24	.25	.25	.25	.37	.37	.37	.37	.37
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0200	0210	0215	0225	0230	0245	0300	0319	0335	0355	0425	0455
AUG	.17	.29	.35	.40	.45	.45	.45	.45	.45	.50	.60	.70
DATE	13	22	22	22	01	01	01	01	01	01	13	13
TIME	1020	0910	0915	0930	1415	1430	1440	1505	1625	1645	1715	1745
SEP	.10	.19	.19	.24	.27	.35	.40	.58	.63	.64	.65	.79
DATE	16	16	16	16	16	25	25	25	25	25	25	25
TIME	2012	2017	2022	2027	2037	1630	1645	1705	1725	1745	1815	1845
OCT	.12	.24	.30	.38	.40	.41	.42	.42	.49	.56	.63	.66
DATE	19	19	19	19	19	19	19	19	20	20	20	20
TIME	1407	1412	1417	1422	1427	1432	1437	1457	0250	0310	0340	0410
NOV	.15	.29	.38	.48	.55	.73	.88	1.16	1.52	1.68	2.10	2.41
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1035	1040	1045	1050	1100	1115	1130	1150	1210	1230	1300	1330
DEC	.07	.12	.14	.18	.20	.32	.40	.55	.58	.60	.60	.60
DATE	14	05	05	05	05	05	05	05	05	05	05	05
TIME	1610	1615	1620	1625	1635	1650	1705	1725	1745	1805	1835	1900
YEAR	.19	.29	.38	.48	.55	.73	.88	1.16	1.52	1.68	2.10	2.41
MONTH	05	11	11	11	11	11	11	11	11	11	11	11

ROCHESTER, NEW YORK

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.07	.02	.03	.03	.04	.05	.07	.08	.09	.12	.12
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1015	[illegible]	1020	1025	1037	1050	1105	1124	1145	1205	1236	1305
FEB	.02	.03	.04	.06	.08	.11	.13	.14	.15	.15	.20	.25
DATE	24	24	24	24	24	24	24	24	24	21	24	24
TIME	1730	1719	1730	1730	1730	1745	1805	1820	1845	1855	1950	1950
MAR	.05	.06	.08	.10	.14	.17	.24	.30	.34	.38	.44	.51
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0305	0400	0400	0400	0400	0400	0355	0400	0420	0445	0445	0455
APR	.07	.09	.11	.12	.15	.19	.24	.30	.35	.38	.45	.50
DATE	03	03	03	03	22	22	23	22	22	22	22	22
TIME	0010	0015	0010	0015	1945	2000	2000	2000	2025	2045	2045	2045
MAY	.02	.03	.04	.05	.05	.05	.06	.08	.09	.09	.10	.11
DATE	02	02	02	02	04	04	04	04	04	04	04	04
TIME	1015	0530	0530	0533	2000	2000	2015	2015	2040	2045	2045	2045
JUN	.10	.13	.18	.18	.18	.18	.25	.30	.35	.37	.40	.41
DATE	18	18	18	18	18	18	25	25	25	25	25	25
TIME	0630	0630	0635	0640	0640	0640	0715	0715	0740	0750	0825	0855
JUL	.15	.26	.29	.35	.52	.58	.68	.71	.80	.82	.86	.89
DATE	12	29	29	29	29	29	29	29	29	29	29	29
TIME	0830	1910	1915	1920	1930	1945	2000	2020	2040	2100	2130	2200
AUG	.30	.45	.47	.52	.60	.78	.89	.90	.90	.90	.90	.90
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1510	1510	1515	1520	1530	1545	1555	1615	1615	1615	1615	1615
SEP	.15	.16	.18	.19	.39	.44	.46	.59	.68	.75	.82	.85
DATE	25	20	20	20	24	24	24	24	24	24	24	25
TIME	0830	0435	0440	0445	2130	2125	2145	2200	2200	2210	2245	2300
OCT	.04	.07	.08	.10	.15	.20	.25	.30	.40	.45	.50	.59
DATE	09	01	09	09	09	09	09	09	09	09	09	09
TIME	0715	1325	0725	0725	0725	0725	0725	0725	0725	0730	0730	0745
NOV	.08	.17	.15	.17	.19	.21	.22	.24	.29	.33	.34	.38
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0132	0555	0130	0600	0148	0159	0214	0231	0258	0313	0335	0413
DEC	.04	.05	.05	.06	.10	.12	.16	.20	.25	.30	.34	.38
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1845	1500	1500	1400	1600	1615	1630	1925	1510	1500	1530	1600
YEAR	.30	.45	.47	.52	.60	.78	.89	.90	.90	.90	.90	.90
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

MAXIMUM SHORT DURATION PRECIPITATION

SYRACUSE, NEW YORK

	Maximum precipitation in inches											
JAN	.06	.06	.07	.07	.08	.10	.11	.11	.11	.12	.14	.15
DATE	28	28	24	29	28	28	28	28	28	17	17	17
TIME	1329	1329	1333	1942	1952	1021	1022	1049	1201	1203	1233	1304
FEB	.05	.07	.10	.13	.18	.23	.27	.33	.38	.40	.43	.45
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1820	1829	1830	1831	1830	1835	1855	1910	1925	1945	2025	2035
MAR	.05	.07	.08	.10	.12	.16	.22	.26	.32	.34	.38	.42
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0815	[illegible]	0815	0845	0010	0045	0047	0007	0017	0017	0017	1700
APR	.05	.08	.10	.13	.18	.21	.23	.30	.32	.36	.42	.46
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820
MAY	.04	.06	.06	.07	.07	.07	.08	.08	.09	.10	.11	.12
DATE	18	18	18	18	18	18	04	04	04	04	04	04
TIME	1932	1939	1938	1946	1930	1919	2243	2240	2246	2311	2331	2342
JUN	.43	.51	.54	.54	.55	.55	.59	.67	.67	.67	.67	.67
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1709	1712	1712	1712	1712	1712	0910	0910	0910	0910	0910	0910
JUL	.32	.45	.45	.60	.82	1.17	1.62	1.70	1.75	1.80	1.80	1.80
DATE	15	15	15	15	15	15	15	15	16	16	16	16
TIME	2325	2325	2310	2319	2333	2335	2335	2355	0010	0030	0030	0030
AUG	.36	.39	.43	.45	.48	.53	.55	.55	.55	.55	.69	.69
DATE	08	08	08	08	08	08	08	08	08	08	14	14
TIME	1740	1740	1745	1747	1735	1745	1745	1745	1745	1745	1345	1415
SEP	.65	.67	.72	.74	.76	.77	.77	.77	.77	.77	.78	.82
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1251	1254	1258	1307	1312	1327	1342	1407	1422	1442	1512	1542
OCT	.06	.11	.15	.17	.21	.22	.25	.30	.39	.41	.46	.50
DATE	29	29	29	29	09	09	09	09	17	17	17	17
TIME	1345	1355	1400	1409	1415	1415	1700	0200	0210	0210	0210	0210
NOV	.15	.19	.20	.23	.25	.25	.26	.29	.30	.32	.38	.45
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	1522	1526	1528	1530	1547	1605	1617	1640	1658	1713	1747	1817
DEC	.05	.07	.08	.09	.10	.12	.17	.20	.23	.25	.32	.35
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0610	0607	0618	0619	0623	0601	0603	0621	0631	0615	0717	0800
YEAR	.65	.67	.72	.74	.92	1.17	1.62	1.70	1.75	1.80	1.80	1.80
MONTH	09	09	09	09	07	07	07	07	07	07	07	07

ASHEVILLE, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.10	.17	.19	.19	.25	.31	.34	.37	.44	.50	.59	.60
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1535	1540	1545	1550	1600	1615	1600	1619	1619	1620	1655	1700
FEB	.10	.12	.14	.13	.17	.24	.30	.39	.40	.45	.53	.54
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0304	0315	0318	0325	0335	0353	0409	0429	0443	0503	0530	0535
MAR	.15	.24	.27	.32	.45	.50	.56	.62	.74	.74	.90	.96
DATE	29	29	29	29	12	12	12	12	29	29	12	29
TIME	2049	2059	2052	2100	2230	2230	2230	2230	2015	2030	2230	2332
APR	.98	.99	1.02	1.11	1.13	1.16	1.23	1.29	1.31	1.34	1.47	1.53
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	2020	2027	2027	2032	2042	2057	2037	2036	2110	2130	2140	2140
MAY	.39	.59	.63	.68	.71	.71	.71	.71	.71	.71	.71	.71
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1529	1537	1535	1539	1542	1542	1542	1542	1542	1542	1542	1542
JUN	.18	.42	.44	.47	.63	.72	.89	1.11	1.19	1.20	1.29	1.30
DATE	04	22	22	22	30	30	30	30	30	30	30	30
TIME	1554	1407	1407	1407	1349	1355	1340	1359	1420	1431	1510	1537
JUL	.17	.29	.35	.37	.40	.41	.42	.45	.47	.47	.47	.47
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1405	1408	1410	1410	1417	1430	1446	1507	1530	1547	1610	1715
AUG	.30	.59	.82	.90	1.12	1.27	1.34	1.36	1.37	1.38	1.43	1.45
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1916	1919	1919	1926	1930	1930	1947	1958	2020	2040	2110	2140
SEP	.65	1.15	1.28	1.45	2.00	2.09	2.09	2.10	2.10	2.10	2.10	2.14
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1410	1427	1422	1432	1442	1442	1437	1514	1540	1555	1625	1655
OCT	.24	.33	.39	.45	.61	.72	.87	1.07	1.27	1.32	1.39	1.48
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1957	2000	2000	2002	2002	2000	2006	2003	2005	2000	2027	2029
NOV	.16	.60	.78	.93	1.13	1.30	1.33	1.60	1.68	1.92	2.10	2.40
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0120	0123	0123	0123	0125	0125	0125	0129	0125	0201	0143	0159
DEC	.10	.19	.16	.19	.23	.28	.31	.36	.42	.49	.53	.55
DATE	18	05	05	05	05	05	05	05	05	05	05	05
TIME	0114	0530	0530	0535	0547	0552	0600	0609	0645	0700	0720	0745
YEAR	.65	1.15	1.28	1.45	2.00	2.09	2.09	2.10	2.10	2.10	2.10	2.40
MONTH	09	09	09	09	09	09	09	09	09	09	11	11

CAPE HATTERAS, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.30	.50	.53	.57	.60	.65	.72	.78	.82	.86	[illegible]	.93
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	0815	[illegible]	0825	[illegible]	0840	0855	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB	.21	.33	.46	.60	.66	.74	.82	.89	.91	.94	.94	.94
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1020	1028	1020	1025	1028	1020	1028	1039	1045	1045	1045	1045
MAR	.27	.28	.28	.30	.30	.32	.35	.35	.35	.37	.40	.50
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	0815	0820	0825	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	.22	.37	.38	.34	[illegible]	[illegible]	.49	.52	.57	[illegible]	.77	.85
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1222	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAY	.20	.30	.32	.36	.39	.40	.40	.40	.40	.40	.40	.40
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1219	1226	1226	1226	1226	1226	1226	1226	1226	1226	1226	1226
JUN	[illegible]	.69	.85	[illegible]	1.15	1.27	1.30	1.35	1.38	1.40	1.40	1.41
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1210	1208	1215	1219	1219	1233	1245	1255	1300	1315	1335	1404
JUL	.33	.38	.59	.69	.71	.71	.71	.71	.74	.74	.74	.74
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0330	0338	0340	0345	0355	0400	0420	0430	0440	0440	0440	0440
AUG	.35	.47	.53	.72	.74	1.00	1.15	1.19	1.52	1.56	1.68	1.72
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0910	0917	0922	0930	0938	0942	0952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP	.18	.23	.43	.48	.58	.67	.72	.75	.83	.93	.98	1.25
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2305	2310	2315	2320	2325	2330	2305	2330	2330	2330	2330	2354
OCT	.32	.50	.55	.65	1.02	1.21	1.32	1.43	1.51	1.64	1.83	1.94
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0613	1648	1648	1700	1710	1713	1719	1732	1742	1730	1755	1855
NOV	.30	.67	.83	.98	1.59	2.12	2.35	2.52	3.17	3.62	4.12	4.29
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1856	1858	1901	1906	1916	1931	1940	2018	2118	2010	2048	2078
DEC	.25	.34	.35	.40	.50	.53	.53	.58	.63	.65	.67	.69
DATE	14	14	14	14	14	14	14	14	14	21	21	21
TIME	0759	0800	0800	0800	0800	0800	0800	0850	0811	0515	0530	0530
YEAR	.40	.69	.85	.98	1.59	2.12	2.35	2.52	3.17	3.62	4.12	4.29
MONTH	06	06	06	11	11	11	11	11	11	11	11	11

CHARLOTTE, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.07	.08	.08	.09	.12	.13	.17	.22	.27	.33	.38	.45
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1357	1400	1400	1400	1405	1025	1910	1900	1900	1900	1910	1900
FEB	.16	.21	.23	.28	.30	.34	.39	.43	.46	.48	.64	.68
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1120	1129	1130	1135	1145	1155	1200	1215	1240	1250	1339	1355
MAR	.20	.26	.25	.28	.43	.52	.56	.73	.83	1.14	1.26	1.35
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1017	1029	1027	0230	0230	0415	0415	0415	0415	0415	0415	0415
APR	.13	.14	.18	.19	.21	.24	.27	.33	.39	.45	.50	.52
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0530	0539	0535	0535	0530	0533	0535	0539	0535	0530	0630	0630
MAY	.18	.27	.46	.53	.58	.60	.62	.67	.86	.93	.96	.96
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1315	1320	1325	1330	1315	1355	1410	1430	1330	1345	1410	1445
JUN	.25	.39	.49	.67	.74	.93	.96	.98	.97	.97	.99	.99
DATE	05	05	05	05	05	05	05	05	05	05	06	06
TIME	1029	2058	2000	2000	2008	2015	2039	2059	2110	2110	1840	1840
JUL	.23	.31	.34	.35	.36	.35	.36	.36	.36	.36	.36	.36
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1415	1420	1425	1430	1440	1440	1440	1440	1440	1440	1440	1440
AUG	.20	.40	.45	.50	.76	.92	.90	.90	.90	.90	.90	.90
DATE	02	02	02	02	10	10	10	10	10	10	10	10
TIME	1455	1500	1505	1510	2205	2215	2230	2230	2230	2230	2230	2230
SEP	.32	.44	.56	.64	.70	.76	.80	1.10	1.16	1.23	1.42	1.56
DATE	16	16	16	16	16	16	16	16	16	08	08	08
TIME	0552	0557	0602	0607	0617	0630	0631	0640	0030	0200	0230	0230
OCT	.22	.34	.41	.51	.64	.78	.93	1.04	1.20	1.50	1.83	2.09
DATE	25	25	25	25	25	25	25	26	26	26	26	26
TIME	2313	2319	2320	2325	2335	2350	2345	0000	0020	0100	0130	0150
NOV	.19	.33	.34	.35	.42	.59	.66	.74	.86	.87	1.25	1.26
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0435	0440	0445	0445	0450	0700	0700	0700	0700	0630	0700	0730
DEC	.17	.18	.18	.18	.18	.18	.19	.19	.21	.25	.26	.26
DATE	05	05	05	05	05	05	05	05	29	29	29	29
TIME	1515	1520	1525	1530	1540	1555	1610	1629	0100	0117	0130	0150
YEAR	.32	.44	.56	.64	.76	.93	.96	1.10	1.20	1.50	1.83	2.09
MONTH	09	09	09	09	09	06	06	09	10	10	10	10

GREENSBORO, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.07	.09	.08	.10	.14	.18	.22	.28	.35	.44	.50	.51
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	2019	2024	2029	1625	1633	1645	1700	1728	1740	1800	1835	1900
FEB	.14	.15	.16	.18	.25	.31	.36	.47	.51	.56	.63	.69
DATE	24	24	24	27	27	27	27	27	27	27	27	27
TIME	0738	0743	0748	1329	1336	1351	1406	1406	1406	1415	1445	1430
MAR	.05	.09	.10	.12	.15	.21	.23	.24	.28	.34	.35	.36
DATE	04	04	04	13	13	13	13	13	13	13	13	13
TIME	1228	1237	1230	0100	0100	0103	0130	0145	0203	0230	0245	0300
APR	.13	.14	.17	.19	.25	.28	.36	.41	.50	.53	.60	.65
DATE	03	05	05	05	05	05	05	05	05	05	05	05
TIME	0248	0254	0248	0304	0316	0330	0345	0412	0428	0443	0430	0500
MAY	.01	.02	.03	.04	.05	.06	.07	.08	.10	.11	.12	.13
DATE	07	07	07	07	07	07	26	26	26	26	26	26
TIME	1415	1415	1415	1415	1415	1415	0430	0430	0430	0430	0430	0430
JUN	.21	.30	.33	.40	.58	.61	.61	.61	.61	.61	.61	.61
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0147	0147	0152	0159	0210	0215	0215	0215	0215	0215	0215	0215
JUL	.22	.41	.43	.52	.75	.88	.99	1.03	1.05	1.07	1.09	1.09
DATE	10	10	10	10	10	10	10	10	10	10	11	11
TIME	2143	2148	2143	2158	2208	2223	2238	2258	2318	2338	0008	0025
AUG	.30	.58	.63	.83	1.25	1.80	1.93	2.08	2.13	2.18	2.25	2.29
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1914	1914	1915	1923	1930	1945	2010	2020	2040	2100	2130	2200
SEP	.11	.22	.33	.38	.55	.72	1.05	1.18	1.47	1.60	1.87	2.15
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0900	0900	0900	0902	0910	0915	0915	0915	0915	0915	0915	0915
OCT	.22	.24	.26	.34	.45	.57	.68	.83	.99	1.15	1.29	1.46
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0314	0319	0402	0407	0417	0432	0447	0415	0430	0445	0445	0455
NOV	.14	.29	.33	.41	.43	.47	.54	.56	.57	.57	.58	.58
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0203	0208	0213	0218	0224	0217	0217	0217	0217	0217	0217	0217
DEC	.22	.27	.27	.28	.42	.48	.48	.48	.48	.49	.49	.49
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1500	1505	1510	1515	1845	1855	1855	1855	1855	1855	1855	1855
YEAR	.30	.58	.63	.83	1.25	1.80	1.93	2.08	2.13	2.18	2.25	2.29
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

RALEIGH, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.04	[illegible]	[illegible]	[illegible]	.11	.14	.17	.23	.27	.30	.37	.44
DATE	09	09	09	09	09	09	09	10	09	09	09	09
TIME	1534	1538	1743	1745	1750	1810	1928	0938	2005	2030	2030	2015
FEB	.17	.27	.27	.41	.48	.54	.57	.61	.62	.88	1.02	1.06
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1557	1607	1615	1617	1613	1615	1622	1640	1700	1722	1615	0645
MAR	.40	.61	.66	.69	.73	.75	.77	.81	.86	.92	.92	.92
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0217	0221	0226	0231	0234	0234	0234	0234	0237	0251	0327	0327
APR	.07	.11	.13	.14	.21	.23	.37	.47	.47	.52	.59	.72
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0320	0329	0330	0734	0344	0350	0730	0735	0740	0740	0745	0900
MAY	.32	.54	.58	.60	.64	.64	.64	.64	.64	.64	.64	.64
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1825	1830	1833	1838	1848	1848	1848	1848	1848	1848	1848	1848
JUN	.08	.09	.10	.14	.16	.17	.18	.19	.25	.28	.30	.30
DATE	13	13	13	06	06	06	06	06	06	06	06	06
TIME	0217	0249	0245	1450	1600	1615	1630	1650	1710	1730	1800	1800
JUL	.16	.25	.25	.28	.29	.30	.30	.30	.30	.30	.30	.30
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1545	1822	1822	1825	1835	1845	1845	1845	1845	1845	1845	1845
AUG	.34	.50	.53	.55	.57	.58	.58	.58	.63	.70	.80	.80
DATE	01	01	01	03	03	03	03	03	03	03	03	03
TIME	1448	1453	1458	0419	0425	0435	0435	0439	0540	0600	0606	0606
SEP	.23	.27	.30	.33	.39	.41	.43	.53	.70	.80	.86	.90
DATE	16	16	16	16	16	16	08	08	08	08	08	08
TIME	1015	1020	1025	1029	1039	1044	0901	0922	0949	1004	1030	1100
OCT	.42	.59	.61	.62	.90	1.02	1.07	1.12	1.22	1.25	1.31	1.32
DATE	02	02	02	02	26	26	26	26	26	26	26	26
TIME	0047	0052	0057	0703	0038	0053	0708	0658	0702	0722	0752	0822
NOV	.05	.09	.11	.14	.19	.20	.34	.40	.46	.57	.64	.81
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0720	0725	0730	1120	1130	1145	1200	1220	1240	1300	1300	1300
DEC	.13	.18	.25	.32	.48	.58	.63	.69	.79	.85	.92	.97
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1530	1540	1545	1555	1600	1605	1607	1607	1607	1607	1637	1657
YEAR	.42	.61	.66	.69	.90	1.02	1.07	1.17	1.22	1.25	1.31	1.32
MONTH	10	03	03	03	10	10	10	10	10	10	10	10

WILMINGTON, NORTH CAROLINA

	Maximum precipitation in inches											
JAN	.09	.09	.09	.12	.18	.22	.28	.39	.43	.47	.90	.92
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1443	1447	1440	1453	1505	1517	1519	1520	1523	1543	1608	1608
FEB	.33	.39	.39	.47	.65	.69	.72	.79	.83	.86	.92	.92
DATE	27	27	27	27	27	27	27	24	24	24	24	24
TIME	1827	1830	1830	1831	1845	1855	1910	1228	1250	1305	1320	1345
MAR	.40	.60	.64	.72	.79	.93	.98	1.07	1.10	1.14	1.16	1.18
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1544	1547	1549	1553	1600	1618	1632	1657	1713	1734	1814	1833
APR	.11	.17	.18	.19	.20	.25	.30	.38	.44	.54	.67	.78
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0542	0549	0547	0547	0803	0803	0820	0842	0853	0845	0820	0835
MAY	.30	.50	.65	.67	.86	.91	1.07	1.19	1.21	1.20	1.42	1.57
DATE	03	03	03	03	25	03	25	25	25	25	25	25
TIME	1348	1355	1400	1402	1830	1400	1823	0838	0900	0923	0958	0958
JUN	.48	.99	1.00	1.07	1.42	1.74	1.77	1.78	1.78	1.79	1.80	1.80
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1627	1627	1630	1635	1635	1635	1647	1707	1724	1744	1814	1844
JUL	.20	.31	.38	.47	.53	.72	.87	1.02	1.10	1.13	1.26	1.30
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1042	1040	1032	1039	1057	1115	1117	1129	1145	1202	1143	1204
AUG	.48	.81	.91	.92	.92	1.01	1.08	1.09	1.11	1.11	1.11	1.12
DATE	16	16	16	16	16	03	03	03	03	03	03	03
TIME	1203	1203	1209	1209	1228	2135	2138	2137	2155	2155	2235	2300
SEP	.39	.57	.66	.80	.88	1.00	1.23	1.31	1.34	1.45	1.49	1.45
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1232	0230	0235	0240	0240	0255	0300	0330	0350	0372	0350	0420
OCT	.17	.23	.25	.26	.43	.58	.78	.94	1.09	1.18	1.51	1.73
DATE	26	26	26	26	26	26	25	26	26	26	26	26
TIME	0644	0650	0645	0657	0716	0722	0733	0753	0807	0900	0901	0926
NOV	.30	.60	.69	.79	.84	.91	1.35	1.57	1.80	1.83	1.95	1.96
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0237	0237	0242	0247	0250	0300	0328	0349	0407	0425	0447	0455
DEC	.08	.14	.15	.17	.28	.32	.36	.38	.38	.38	.46	.48
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1022	1027	1030	1033	1047	1100	1110	1120	1120	1120	1231	1315
YEAR	.48	.99	1.00	1.07	1.42	1.74	1.77	1.78	1.80	1.85	1.95	[illegible]
MONTH	06	06	06	06	06	06	06	06	11	11	11	11

BISMARCK, NORTH DAKOTA

	Maximum precipitation in inches											
JAN	.02	.03	.04	.04	.07	.09	.09	.09	.09	.10	.11	.11
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0115	0100	0110	0100	0115	0125	0135	0145	0205	0230	0300	0300
FEB	.02	.03	.04	.05	.07	.08	.09	.09	.09	.09	.09	.09
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0630	0630	0645	0645	0645	0700	0719	0729	0729	0729	0729	0729
MAR	.01	.02	.03	.03	.05	.05	.08	.09	.11	.14	.17	.20
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0355	0400	0400	0400	0400	0400	0400	0420	0440	0500	0530	0600
APR	.01	.01	.02	.02	.03	.04	.04	.05	.06	.07	.08	.08
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0820	0830	0830	0835	0845	0855	0910	0845	0845	0845	0845	0845
MAY	.03	.04	.07	.09	.13	.17	.18	.21	.24	.24	.24	.25
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0020	0030	0032	0035	0015	0045	0055	0110	0125	0140	0215	0240
JUN	.08	.14	.16	.22	.30	.33	.43	.49	.54	.54	.54	.56
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0435	0440	0445	0445	0500	0515	0520	0515	0530	0545	0615	0640
JUL	.14	.24	.28	.36	.42	.52	.52	.52	.53	.55	.57	.57
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1915	1915	1917	1922	1918	1932	1932	1947	2013	2028	2059	2129
AUG	.11	.17	.19	.19	.22	.22	.26	.30	.31	.32	.33	.33
DATE	06	06	06	06	06	06	15	15	15	15	31	31
TIME	1539	1544	1549	1554	1548	1603	0715	0716	0734	0754	0524	0556
SEP	.05	.09	.09	.19	.27	.33	.41	.51	.56	.73	.78	.93
DATE	08	08	08	08	17	17	17	17	18	18	18	18
TIME	1356	1361	1360	1351	2300	2318	2330	2353	0013	0010	0036	0108
OCT	.03	.04	.08	.11	.13	.15	.19	.24	.28	.32	.39	.43
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0813	0818	0815	0820	0830	0847	0842	0842	0837	0837	0843	0713
NOV	.03	.03	.03	.03	.05	.05	.08	.10	.12	.14	.17	.19
DATE	19	19	20	20	19	19	19	19	19	24	19	19
TIME	1623	1744	0355	0425	1648	1655	1710	1744	1809	1600	1900	1930
DEC	.02	.02	.02	.02	.03	.03	.04	.04	.05	.05	.06	.07
DATE	07	07	07	17	07	17	07	07	07	17	17	17
TIME	1130	1134	1130	1431	1134	1452	1138	1138	0419	1452	1452	1452
YEAR	.15	.24	.28	.36	.42	.52	.52	.52	.56	.73	.78	.93
MONTH	07	07	07	07	07	07	07	07	09	09	09	09

FARGO, NORTH DAKOTA

	Maximum precipitation in inches											
JAN	.01	.01	.02	.02	.03	.04	.05	.06	.08	.09	.10	.12
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1705	1757	1710	1720	1730	1747	1800	1845	1815	1830	1930	1930
FEB	.02	.04	.06	.07	.11	.16	.22	.27	.31	.34	.42	.46
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1411	1340	1400	1405	1400	1445	1445	1450	1440	1530	1600	1600
MAR	.02	.04	.05	.06	.09	.12	.16	.18	.22	.28	.34	.39
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1217	1217	1213	1217	1230	1240	1250	1310	1335	1356	1430	1500
APR	.03	.05	.07	.08	.12	.17	.22	.27	.30	.31	.31	.31
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1100	1110	1115	1117	1121	1117	1131	1132	1144	1147	1145	1209
MAY	.30	.50	.52	.53	.60	.75	.80	1.07	1.95	2.30	2.80	3.25
DATE	30	30	30	30	04	04	04	04	04	04	04	04
TIME	1555	1555	1558	1600	2345	2345	2345	2345	2345	2345	2345	2345
JUN	.36	.47	.58	.59	.59	.59	.59	.59	.59	.59	.59	.59
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1815	1816	1816	1824	1823	1823	1823	1823	1823	1823	1823	1823
JUL	.93	1.00	1.10	1.19	1.21	1.64	1.81	1.81	2.00	3.05	3.06	3.06
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0815	0800	0815	0845	0850	0905	0920	0940	0910	0945	0910	0940
AUG	.21	.32	.44	.47	.47	.48	.48	.48	.71	.94	.95	.95
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1640	1650	1655	1702	1714	1725	1730	1730	1700	1700	1730	1730
SEP	.17	.20	.29	.31	.36	.39	.44	.51	.55	.55	.60	.68
DATE	23	23	23	23	18	18	18	18	18	18	18	18
TIME	1844	1849	1843	1850	0449	0453	0513	0528	0545	0608	0610	0700
OCT	.14	.29	.25	.27	.28	.28	.28	.28	.29	.30	.40	.44
DATE	31	31	31	31	31	31	31	31	07	07	07	07
TIME	1002	1007	1012	1017	1027	1042	1047	1047	0940	1000	1030	1100
NOV	.06	.06	.09	.12	.17	.24	.32	.34	.38	.43	.49	.56
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1220	1224	1230	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	.01	.02	.03	.04	.05	.07	.08	.09	.10	.11	.12	.14
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	.93	1.00	1.10	1.19	1.21	1.64	1.81	1.81	2.00	3.05	3.06	3.25
MONTH	07	07	07	07	07	07	07	07	07	07	07	05

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

[illegible], NORTH DAKOTA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.04	.06	.08	.11	.12	.15	.16	.21	.25
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1125	[illegible]	1145	1145	1145	1145	1145	1145	1145	1250	1310	1315
FEB	.02	.02	.03	.04	.05	.06	.08	.08	.10	.10	.11	.12
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0544	0544	0900	0900	0900	0900	0900	0900	0900	0930	1000	1030
MAR	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1544	1544	1546	1546	1546	1546	1635	1635	1635	1635	1635	1635
APR	.02	.04	.04	.04	.06	.08	.08	.08	.08	.09	.09	.09
DATE	27	27	02	27	27	27	27	27	27	21	21	21
TIME	[illegible]	1115	1010	[illegible]	1340	1130	1130	1133	1145	1850	1915	1900
MAY	.44	.64	.76	.92	.97	.98	.98	.98	.98	.98	.98	.98
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1803	[illegible]	1815	1820	1825	1837	1848	1914	1931	1950	2026	2042
JUN	[illegible]	.20	.22	.23	.24	.25	.27	.32	.37	.41	.43	.45
DATE	14	14	14	14	14	14	14	14	14	14	14	15
TIME	2135	2137	2137	2144	2158	2205	2220	2240	2305	2320	2350	0016
JUL	.18	[illegible]	.28	[illegible]	.30	.30	.30	.32	.32	.34	.34	.49
DATE	29	29	29	29	29	29	06	06	06	06	06	06
TIME	1640	1640	1640	1630	1050	1050	1435	1435	1435	1435	1435	1435
AUG	.05	.07	.08	.08	.11	.14	.18	.22	.27	.30	.36	.42
DATE	07	07	07	07	31	31	31	31	31	31	31	31
TIME	0905	0910	0915	0920	0235	0235	0235	0239	0235	0235	0315	0330
SEP	.09	.11	.12	.12	.15	.20	.23	.24	.27	.34	.41	.44
DATE	01	01	01	01	08	08	08	08	08	08	08	08
TIME	2134	2139	2044	2045	1917	1932	1947	1007	1027	1047	1117	1147
OCT	.02	.03	.03	.03	.04	.04	.05	.06	.06	.06	.06	.06
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	[illegible]	1140	1040	[illegible]	1145	1145	1125	1145	1200	1200	1200	1200
NOV	.01	.02	.02	.02	.03	.04	.06	.08	.09	.10	.12	.13
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0540	0540	0540	0540	0540	0540	0445	0445	0445	0445	0445	0430
DEC	.01	.02	.02	.03	.04	.05	.06	.06	.07	.08	.12	.13
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0645	[illegible]	0845	[illegible]	0810	0812	0815	1040	1040	0850	0930	1040
YEAR	.44	.64	.76	.92	.97	.98	.98	.98	.98	.98	.98	.98
MONTH	05	05	05	05	05	05	05	05	05	05	05	05

CLEVELAND, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.03	.04	.04	.05	.06	.07	.08	.09	.10	.11
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0430	0430	0440	0440	0455	0510	1015	1034	1034	1034	0655	0655
FEB	.05	.09	.13	[illegible]	.18	.21	.22	.22	.22	.22	.22	.22
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0954	0957	[illegible]	[illegible]	1008	1008	1008	1008	1008	1008	1008	1008
MAR	.09	.14	.19	.24	.28	.31	.36	.40	.49	.57	.65	.69
DATE	12	12	12	12	12	12	12	18	18	18	18	18
TIME	2205	2210	2214	2218	2222	2230	2230	2220	0240	0300	0330	0400
APR	[illegible]	.17	.22	.24	[illegible]	.33	.35	.39	.41	.48	.52	.52
DATE	20	20	20	20	20	20	20	20	20	02	02	02
TIME	1640	1647	1650	1655	1703	1715	1730	1750	1810	0710	0740	0740
MAY	[illegible]	[illegible]	.18	.21	.22	.22	.22	.22	.22	.23	.25	.27
DATE	31	31	31	31	31	31	31	31	31	02	02	02
TIME	1934	[illegible]	1941	1950	1950	1950	1950	1950	1950	0535	0600	0630
JUN	.43	.67	.82	.82	.90	.93	.94	.95	.95	.95	.95	.99
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1412	[illegible]	1418	1425	1435	1537	1552	1507	1527	1547	1617	1647
JUL	[illegible]	.49	.80	.76	.90	.98	1.00	1.00	1.00	1.03	1.60	1.61
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	[illegible]	[illegible]	1655	1655	1657	1712	1727	1927	1727	1727	1857	1927
AUG	.28	.44	.46	.47	.64	.68	.69	.70	.70	.70	.70	.70
DATE	21	05	05	05	05	05	05	05	05	05	05	05
TIME	1319	[illegible]	0515	0520	0530	0545	0600	0620	0620	0620	0620	0620
SEP	.10	.13	.17	.18	.19	.24	.30	.38	.39	.42	.45	.48
DATE	[illegible]	13	13	13	13	13	13	13	13	13	13	14
TIME	2211	[illegible]	1840	1855	[illegible]	2230	2245	2245	2305	2325	2355	0025
OCT	.08	.12	.15	.16	.17	.18	.18	.19	.20	.26	.31	.32
DATE	[illegible]	18	19	19	19	19	19	19	19	19	19	19
TIME	1919	2213	1728	1733	1743	1758	1758	1758	1758	1800	1943	1943
NOV	.09	.13	.14	.17	.23	.31	.34	.38	.45	.50	.55	.57
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0446	0446	0446	0446	0446	0446	0450	0446	0446	0502	0532	0549
DEC	.04	.07	.08	.09	.12	.14	.21	.28	.28	.29	.32	.36
DATE	24	24	24	24	24	24	24	24	24	24	14	14
TIME	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	0231	0314
YEAR	[illegible]	.67	.80	.92	.90	.98	1.00	1.00	1.00	1.03	1.50	1.61
MONTH	[illegible]	06	07	[illegible]	07	07	07	07	07	07	07	07

MANSFIELD, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.03	.04	.06	.07	.07	.07	.08	.08	.12	.13
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
FEB	.03	.05	.07	[illegible]	.11	.13	.17	.19	.20	.21	.22	.22
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1440	1440	1440	1440	1440	1440	1510	1515	1520	1520	1520	1520
MAR	.04	.07	.08	[illegible]	.14	.17	.25	.30	.36	.45	.56	.59
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0300	0300	0300	[illegible]	0300	0300	0305	0320	0330	0415	0445	0510
APR	.06	.11	.16	[illegible]	.26	.34	.43	.52	.71	.74	.78	.89
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0600	[illegible]	0600	[illegible]	0600	0600	0600	0600	0625	0645	0730	0730
MAY	.26	.47	.51	.53	.56	.63	.64	.64	.64	.66	.66	.66
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	2050	2055	[illegible]	2110	2115	2130	2130	2130	2215	2215	2215
JUN	.44	.67	.83	.91	1.03	1.07	1.18	1.27	1.33	1.36	1.41	1.48
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1919	1932	1937	1944	1950	2005	2020	2040	2100	2120	2130	2220
JUL	.33	.47	.54	.70	.87	1.26	1.56	1.66	1.83	1.87	1.91	2.06
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1700	1700	1710	[illegible]	1715	1720	1740	1800	1820	1840	1910	1940
AUG	.22	.28	.32	.40	.43	.53	.57	.67	.84	.87	.87	.87
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0525	0610	0615	0620	0630	0635	0640	0640	0640	0640	0640	0640
SEP	.32	.38	.42	.45	.56	.79	.89	1.01	1.07	1.10	1.11	1.12
DATE	13	13	13	13	13	13	13	13	13	13	14	14
TIME	2320	2325	2330	2335	2345	2215	2335	2255	2315	2335	0005	0035
OCT	[illegible]	[illegible]	[illegible]	[illegible]	.09	.14	.18	.24	.25	.26	.26	.32
DATE	07	07	07	07	07	07	07	07	07	07	06	06
TIME	[illegible]	0120	0120	[illegible]	0120	0200	0140	0200	0220	0228	0228	0228
NOV	.17	.21	.23	.24	.27	.28	.29	.30	.33	.37	.43	.45
DATE	16	16	16	16	16	16	16	04	04	04	04	04
TIME	2146	2151	2156	2201	2211	2226	2246	1245	1245	1245	1245	1245
DEC	[illegible]	[illegible]	.16	.19	.24	.28	.31	.34	.39	.44	.44	.50
DATE	24	24	24	24	24	24	24	24	24	24	14	14
TIME	[illegible]	2100	2100	2100	2105	2105	2105	2105	2120	2130	0505	0530
YEAR	.44	.67	.83	.91	1.03	1.26	1.56	1.66	1.83	1.87	1.91	2.06
MONTH	06	06	06	06	06	07	07	07	07	07	07	07

AKRON, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.03	.03	.04	.06	.08	.10	.10	.10	.13	.13
DATE	28	28	10	10	10	10	10	10	10	10	10	10
TIME	0400	0405	0545	0550	0600	0615	0630	0638	0658	0718	0748	0818
FEB	.05	.09	.11	.14	.17	.20	.22	.23	.23	.24	.24	.24
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1001	1006	1011	1016	1026	1034	1036	1048	1108	1053	1123	1153
MAR	.10	.11	.12	.13	.16	.19	.22	.27	.32	.33	.39	.46
DATE	20	20	20	20	20	20	12	12	12	12	12	18
TIME	0600	0605	0610	0615	0625	0640	2200	2220	2224	2244	2314	0318
APR	.08	.11	.16	.20	.25	.32	.43	.63	.73	.83	.93	1.00
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0550	0555	0600	0705	0615	0630	0645	0705	0725	0720	0750	0820
MAY	.09	.12	.13	.14	.14	.14	.14	.15	.16	.17	.20	.20
DATE	02	02	02	02	02	02	02	02	02	02	25	25
TIME	1415	1420	1425	1430	1440	1455	1510	1530	1550	1610	0930	1000
JUN	[illegible]	.30	.48	.58	.73	1.13	1.28	1.35	1.49	1.53	1.64	1.66
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	2125	2130	2124	2129	2150	2205	2209	2201	2221	2241	2230	2300
JUL	.48	.82	.99	1.14	1.20	1.22	1.24	1.36	1.36	1.36	1.36	1.36
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1755	1757	1800	1805	1810	1825	1840	1900	1920	1940	2010	2040
AUG	.42	.84	.90	1.00	1.14	1.21	1.22	1.28	1.32	1.32	1.33	1.33
DATE	06	06	06	06	06	06	06	06	07	07	07	07
TIME	[illegible]	2230	2235	2240	2250	2305	2320	2340	0000	0020	0050	0120
SEP	.27	.37	.39	.44	.56	.76	.91	.96	.96	.97	.98	.98
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1800	1802	1807	1812	1815	1840	1845	1850	1910	1845	1915	1945
OCT	.11	.12	.12	.13	.13	.17	.20	.29	.31	.37	.45	.50
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1010	1015	1020	1025	1035	0840	0855	0915	0935	0925	1010	1020
NOV	.07	.11	.13	.15	.16	.18	.27	.34	.37	.40	.43	.47
DATE	04	04	04	04	04	07	07	07	07	07	07	10
TIME	1240	1245	1250	1255	1305	1420	1435	1455	1515	1530	1600	0930
DEC	.05	.08	.08	.10	.13	.16	.20	.27	.33	.37	.43	.46
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1545	1550	1555	1600	0635	0635	0700	0720	0725	0745	0815	0845
YEAR	.48	.84	.99	1.14	1.20	1.22	1.28	1.36	1.49	1.53	1.64	1.64
MONTH	07	08	07	07	07	07	06	07	06	06	06	06

COLUMBUS, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.02	.03	.04	.05	.07	.09	.11	.13	.15	.19
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1135	1139	1035	1130	1140	1200	1300	1100	1100	1100	1300	1300
FEB	.03	.04	.06	.07	.10	.11	.13	.17	.17	.18	.21	.25
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1400	1400	1405	1415	1425	1435	1445	1430	1530	1430	1515	1600
MAR	.10	.12	.15	.17	.27	.37	.43	.48	.63	.73	.76	.81
DATE	18	18	18	18	18	18	18	12	12	12	12	12
TIME	0230	0238	0241	0245	0258	0310	0337	2015	2025	2035	2105	2140
APR	.16	.18	.20	.28	.28	.32	.36	.43	.49	.56	.80	.83
DATE	02	23	23	23	23	02	02	02	02	02	02	[illegible]
TIME	0430	1109	1114	1117	1129	0512	0525	0545	0605	0625	0655	0725
MAY	.09	.18	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1645	1645	1645	1645	1645	1645	1645	1645	1645	1645	1645	1645
JUN	.34	.60	.64	.68	.71	.71	.80	.82	.95	1.01	1.11	1.14
DATE	27	27	27	27	26	26	08	08	08	08	08	[illegible]
TIME	1532	1544	1544	1549	1600	1602	2135	2135	2135	2135	2135	2145
JUL	.25	.30	.31	.32	.32	.33	.34	.35	.37	.38	.39	.40
DATE	07	07	07	07	07	07	07	07	07	07	07	17
TIME	1925	1929	1930	1935	1947	2000	2005	2035	2058	2110	2145	0717
AUG	.46	.64	.72	1.08	1.18	1.20	1.20	1.28	1.45	1.60	1.71	2.12
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0845	0845	0845	0850	0855	0900	0910	0900	0905	0920	0955	0900
SEP	.28	.54	.56	.61	.83	.97	1.00	1.10	1.11	1.12	1.12	1.12
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1530	1530	1530	1535	1545	1600	1615	1635	1655	1735	1745	1810
OCT	.06	.10	.14	.18	.26	.34	.46	.48	.48	.58	.60	.66
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0730	0730	0730	0740	0740	0745	0745	0745	0745	0745	0745	0745
NOV	.12	.23	.28	.33	.38	.40	.44	.48	.50	.51	.57	.60
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0335	0340	0345	0350	0400	0415	0430	0445	0507	0525	0600	0625
DEC	.06	.10	.10	.11	.13	.18	.22	.26	.32	.35	.42	.47
DATE	24	24	24	24	14	14	14	14	14	14	14	14
TIME	2113	2113	2113	2113	0550	0550	0550	0550	0550	0550	0550	0602
YEAR	.46	.64	.72	1.08	1.18	1.20	1.20	1.28	1.45	1.60	1.71	2.12
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

TOLEDO, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.04	.06	.06	.08	.11	.14	.17	.19	.21	.25	.26
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0455	0455	0450	0455	0505	0520	0535	0555	0615	0635	0705	0735
FEB	.04	.07	.09	.11	.18	.23	.28	.32	.37	.41	.45	.46
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1540	1545	1545	1545	1600	1615	1630	1650	1625	1640	1700	1730
MAR	.09	.12	.13	.14	.17	.19	.28	.37	.40	.45	.54	.56
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0039	0039	0040	0040	0040	0040	0040	0040	0040	0040	0045	0100
APR	.09	.17	.21	.28	.33	.37	.48	.57	.75	.89	1.06	1.20
DATE	24	24	24	24	24	24	22	22	22	22	22	22
TIME	1800	1800	1800	1805	1815	1830	2025	2040	1950	2010	2040	2110
MAY	.07	.08	.08	.11	.15	.19	.24	.31	.37	.41	.51	.57
DATE	06	06	06	02	02	02	02	02	02	02	02	02
TIME	0100	0100	0100	0505	0517	0530	0545	0505	0535	0520	0545	0615
JUN	.31	.41	.46	.58	.59	.60	.64	.66	.69	.77	.79	.80
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1145	1150	1155	1200	1210	1225	1240	1300	1320	1340	1410	1440
JUL	.24	.48	.50	.50	.50	.54	.56	.56	.56	[illegible]	.59	.63
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1525	1530	1530	[illegible]	1545	1600	1615	1635	1655	1715	1530	1545
AUG	.28	.53	.62	.66	.71	.83	1.28	1.43	1.49	1.54	1.80	1.88
DATE	05	05	05	05	05	05	05	05	05	05	05	06
TIME	2138	2140	2142	2147	2157	2212	2227	2247	2307	2327	2357	0027
SEP	.19	.35	.37	.41	.55	.58	.69	.72	.74	.74	.74	.74
DATE	19	19	19	19	02	02	02	02	02	02	02	02
TIME	1032	1035	1040	1045	0420	0435	0425	0435	0452	0452	0452	0452
OCT	.14	.19	.21	.22	.23	.31	.42	.48	.53	.53	.55	.61
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0320	0325	0322	0327	0337	0355	0408	0428	0448	0505	0445	0440
NOV	.05	.09	.11	.16	.18	.19	.22	.30	.34	.38	.46	.54
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1928	1933	1938	1943	1953	2115	1945	1945	1945	2117	2050	2113
DEC	.05	.07	.08	.09	.11	.12	.14	.17	.21	.23	.29	.36
DATE	20	20	20	20	20	20	08	08	08	08	08	08
TIME	0425	0425	0425	0425	0440	0450	1600	1625	1645	1600	1600	1600
YEAR	.31	.53	.62	.66	.71	.83	1.28	1.43	1.49	1.54	1.80	1.88
MONTH	06	08	08	08	08	08	08	08	08	08	08	08

CINCINNATI, OHIO ABBF

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.05	.07	.09	.13	.16	.19	.21	.23	.25	.30	.33
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0130	0130	0130	0135	0145	0200	0200	0205	0200	0200	0215	0300
FEB	.03	.05	.06	.08	.10	.12	.15	.18	.20	.22	.28	.32
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2052	2057	2102	2107	2117	2237	2252	2312	2332	2352	2320	2253
MAR	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
APR	.23	.33	.35	.36	.38	.40	.43	.47	.49	.49	.49	.49
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1545	1550	1555	1600	1610	1625	1550	1615	1635	1655	1725	1755
MAY	.72	1.01	1.26	1.51	1.65	1.77	1.83	1.83	1.83	1.84	1.84	1.84
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1453	1458	1458	1458	1508	1523	1538	1558	1618	1638	1708	1738
JUN	.95	1.00	1.07	1.09	1.12	1.13	1.30	1.33	1.34	1.36	1.39	1.39
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1800	1802	1807	1812	1822	1837	1852	1912	1932	1952	2022	2052
JUL	.37	.42	.45	.46	.47	.47	.47	.47	.47	.48	.51	.52
DATE	16	16	16	16	25	25	25	25	25	10	10	10
TIME	2030	2035	2040	2045	0452	0452	0452	0452	0452	1130	1200	1230
AUG	.26	.40	.46	.50	.56	.75	.83	.89	.89	.92	.92	.93
DATE	11	16	16	16	16	24	24	24	24	24	24	11
TIME	1904	1042	1047	1052	1102	0103	0118	0138	0158	0218	0248	2010
SEP	.20	.25	.27	.29	.32	.34	.34	.45	.51	.52	.52	.54
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	2013	2020	2018	2020	2030	2030	2030	2120	2135	2145	2230	2245
OCT	.20	.25	.27	.29	.34	.42	.52	.56	.58	.62	.62	.62
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0608	0612	0615	0615	0615	0615	0615	0615	0615	0615	0615	0615
NOV	.08	.13	.16	.20	.24	.30	.37	.46	.49	.53	.57	.61
DATE	16	16	16	16	16	21	21	21	21	21	21	21
TIME	2144	2149	2154	2159	2209	0340	0346	0406	0419	0439	0504	0539
DEC	.08	.12	.14	.18	.23	.32	.42	.52	.60	.70	.77	.83
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0240	0240	0240	0240	0330	0330	0330	0330	0338	0358	0428	0458
YEAR	.72	1.01	1.26	1.51	1.65	1.77	1.83	1.83	1.83	1.84	1.84	1.84
MONTH	05	05	05	05	05	05	05	05	05	05	05	05

DAYTON, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.06	.07	.07	.08	.09	.10	.12	.14	.14	.17	.20
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0852	0905	0910	0915	0905	0930	0903	0912	0930	0947	1025	1050
FEB	.04	.04	.06	.08	.10	.11	.14	.17	.21	.24	.25	.26
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	2158	2158	2158	2200	2200	2200	2200	2200	2200	2205	2235	2235
MAR	.08	.12	.13	.16	.19	.24	.31	.36	.40	.45	.50	.53
DATE	12	12	12	12	12	12	12	12	12	18	18	18
TIME	1702	1710	1713	1715	1723	1735	1030	1030	1030	0400	0440	0500
APR	.20	.35	.39	.50	.77	.92	.94	.98	1.00	1.01	1.07	1.09
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1450	1450	1455	1510	1513	1514	1520	1545	1545	1545	1205	1205
MAY	.20	.21	.23	.23	.24	.38	.45	.53	.64	.78	.96	1.01
DATE	06	06	06	06	04	04	04	04	04	04	04	04
TIME	1106	1112	1112	1112	1531	1550	1550	1550	1550	1550	1614	1614
JUN	.35	.50	.62	.66	.69	.71	.77	.80	.82	.84	.90	.94
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1924	1929	1934	1939	1949	2004	2000	1950	2010	2030	2100	2200
JUL	.59	.87	.91	.96	.97	.97	.98	.99	.99	.99	.99	.99
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1405	1408	1410	1415	1416	1416	1416	1416	1416	1416	1416	1416
AUG	.34	.49	.50	.53	.55	.59	.61	.63	.67	.69	.69	.69
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1703	1708	1713	1710	1710	1710	1734	1756	1817	1834	1904	1934
SEP	.26	.37	.39	.44	.77	.78	.80	.80	.80	.80	.80	.81
DATE	15	13	13	15	13	13	13	13	13	13	13	13
TIME	1920	2050	2050	1925	2112	2120	2140	2155	2215	2215	2215	2335
OCT	.44	.52	.53	.54	.61	.65	.67	.73	.88	1.04	1.29	1.30
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0555	0600	0600	0600	0600	0600	0600	0600	0600	0600	0600	0600
NOV	.05	.10	.12	.13	.17	.19	.21	.24	.30	.41	.43	.46
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0212	0217	0222	0227	0237	0252	0312	0327	0347	0407	0437	0512
DEC	M	M	M	M	M	M	.27	M	M	.48	.49	.49
DATE							14			24	24	24
TIME							0117			1940	1940	1940
YEAR	.59	.87	.91	.96	.97	.97	.98	.99	1.00	1.04	1.29	1.30
MONTH	07	07	07	07	07	07	07	07	04	10	10	10

YOUNGSTOWN, OHIO

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.03	.03	.04	.05	.07	.09	.10	.11	.12	.13
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135
FEB	.07	.08	.08	.09	.10	.10	.10	.10	.11	.11	.11	.14
DATE	24	24	24	24	24	24	24	24	12	12	12	12
TIME	1118	1123	1128	1134	1144	1150	1150	1150	1737	1737	1710	1740
MAR	.05	.10	.15	.19	.21	.24	.32	.39	.50	.55	.65	.76
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1012	1012	1012	1023	0636	0636	0636	0636	0636	0636	0636	0636
APR	.06	.11	.14	.14	.20	.24	.33	.43	.53	.58	.63	.68
DATE	23	23	19	19	23	02	02	02	02	02	02	02
TIME	1646	1646	1637	1637	1646	0700	0800	0800	0800	0800	0830	0900
MAY	.03	.04	.06	.06	.06	.08	.10	.12	.12	.12	.12	.12
DATE	18	18	13	13	13	02	02	02	02	02	02	02
TIME	2128	2130	1943	1943	1943	1235	1235	1235	1235	1235	1235	1235
JUN	.35	.58	.60	.61	.71	.81	.83	.90	1.03	1.03	1.03	1.03
DATE	06	06	06	06	18	18	18	18	18	18	18	18
TIME	0629	0633	0633	0635	0407	0407	0407	0407	0407	0407	0407	0407
JUL	.33	.45	.48	.63	.75	1.05	1.09	1.12	1.12	1.12	1.30	1.60
DATE	06	25	07	07	07	07	07	07	07	07	07	07
TIME	2156	0535	0002	0002	0013	0023	0038	0045	0045	0045	0016	0045
AUG	.38	.65	.99	1.14	1.29	1.39	1.43	1.43	1.51	1.51	1.51	1.51
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1149	1154	1159	1204	1214	1229	1229	1229	1229	1229	1229	1229
SEP	.16	.29	.33	.43	.53	.64	.68	.71	.71	.71	.71	.71
DATE	19	19	20	20	20	20	20	20	20	20	20	20
TIME	2348	2349	0001	0002	0006	0014	0030	0045	0045	0045	0045	0045
OCT	.06	.07	.09	.13	.17	.21	.25	.29	.32	.33	.42	.44
DATE	03	03	01	01	01	01	01	01	01	01	01	01
TIME	0337	0342	0925	0930	0930	0945	0945	0945	1000	1000	1120	1120
NOV	.06	.11	.13	.15	.17	.20	.25	.30	.36	.41	.49	.56
DATE	17	17	07	07	17	17	17	17	17	10	07	07
TIME	0220	0223	0515	0520	0230	0230	0230	0230	0240	1130	0522	0522
DEC	.05	.09	.10	.11	.13	.15	.22	.30	.36	.42	.49	.54
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0230	0235	0240	0245	0255	0310	0630	0650	0710	0630	0700	0730
YEAR	.38	.65	.99	1.14	1.29	1.39	1.43	1.43	1.51	1.51	1.51	1.60
MONTH	08	08	08	08	08	08	08	08	08	08	08	07

MAXIMUM SHORT DURATION PRECIPITATION

[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

YEAR 1977

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
SEXTON SUMMIT, OREGON												
JAN	.04	.07	.09	[illegible]	.14	.14	.15	.20	.21	.21	.22	.22
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1634	1634	1634	1634	1634	1634	1650	1634	1650	1650	1650	1650
FEB	.08	.09	.08	[illegible]	.13	.13	.13	.14	.17	.19	.21	.27
DATE	20	20	21	20	20	20	20	20	20	20	21	20
TIME	1312	1312	1414	1428	1339	1339	1339	1337	1337	1337	1629	1339
MAR	.10	.14	.15	.15	.15	.15	.18	.19	.24	.25	.26	.27
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1236	1239	1239	1239	1239	1239	1337	1317	1351	1351	1351	1351
APR	.09	.15	.17	.19	.20	.22	.22	.22	.23	.23	.24	.26
DATE	29	29	29	29	29	29	29	29	30	30+	29	29
TIME	2313	2313	2313	2313	2315	2330	2330	2330	0015	0015	2330	2330
MAY	.13	.16	.16	.18	.28	.32	.38	.48	.56	.59	.64	.69
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1619	1619	1619	1619	1619	1620	1642	1657	1722	1738	1808	1838
JUN	.02	.03	.04	.05	.06	.07	.08	.10	.10	.11	.11	.11
DATE	18	18	18	18	18	18	18	18	18	18+	18+	18+
TIME	0147	0152	0155	0159	0155	0155	0155	0155	0155	0155	0155	0155
JUL	.03	.04	.06	.08	.11	.15	.18	.21	.21	.21	.21	.21
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0751	0751	0715	0715	0730	0740	0751	0814	0814	0814	0814	0814
AUG	.05	.08	.09	[illegible]	.10	.12	.15	.15	.22	.25	.29	.29
DATE	24	24	24	24	24+	24	24	24	24	24	24	24
TIME	0538	0539	0538	0538	0538	0247	0247	0247	0343	0343	0416	0416
SEP	.05	.09	.13	.17	.20	.28	.34	.37	.39	.40	.50	.55
DATE	28+	19	28	28	28	28	28	28	28	28+	28	28
TIME	1254	0214	1230	1233	1233	1254	1254	1308	1330	1345	0816	0845
OCT	.04	.05	.05	.06	.09	.11	.12	.14	.15	.17	.18	.19
DATE	29+	25	25	25	25	25	25	25	29+	25	25	29+
TIME	[illegible]	0503	0503	0508	0525	0533	0546	0546	0218	0546	0546	0330
NOV	.05	.09	.10	.14	.18	.22	.27	.32	.37	.38	.42	.43
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	2030	2030	2030	2030	2033	2033	2033	2033	2040	2040	2040	2131
DEC	.05	.06	.07	.07	.10	.13	.15	.21	.23	.25	.30	.30
DATE	30+	30+	14+	14+	14+	14+	14	14	14	14	14	14
TIME	0345	0345	1213	1213	1216	1240	1232	1300	1321	1337	1410	1410
YEAR	.10	.15	.17	.18	.28	.32	.38	.48	.56	.59	.64	.69
MONTH	05+	04	04	05+	05	05	05	05	05	05	05	05
HARRISBURG, PENNSYLVANIA												
JAN	.02	.03	.04	.05	.06	.09	.11	.13	.15	.16	.20	.24
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0950	0955	1000	1005	1015	1030	1040	1045	1100	1100	1205	1205
FEB	.07	.14	.17	.22	.24	.32	.45	.67	.75	.76	.81	.86
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1415	1415	1415	1415	1415	1415	1415	1415	1415	1415	1415	1415
MAR	.36	.38	.40	.44	.46	.48	.48	.48	.56	.64	.80	.86
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1635	1640	1645	1650	1700	1715	1730	1750	0645	0700	0630	0630
APR	.19	.37	.40	.58	.60	.65	.71	.72	.76	.78	.86	.91
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1335	1340	1340	1345	1350	1410	1410	1430	1450	1510	1540	1610
MAY	[illegible]	.09	.09	.10	.12	.13	.15	.20	.22	.23	.24	.26
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0800	0800	0800	0800	0800	0800	0800	0720	0720	0720	0720	0720
JUN	.30	.50	.52	.56	.61	.72	.73	.74	.74	.74	.74	.77
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1548	1549	1600	1605	[illegible]	1607	1615	1615	1615	1615	1615	1615
JUL	.40	.67	.68	.71	.72	.80	.85	.85	.85	.85	.85	.85
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1330	1335	1340	1345	1410	1425	1510	1510	1510	1510	1510	1510
AUG	.04	.07	.08	.09	.12	.13	.14	.16	.17	.22	.22	.22
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1133	1133	1133	1133	1133	1133	1133	1133	1133	1133	1133	1133
SEP	.14	.17	.26	.30	.36	.41	.55	.68	.74	.76	.86	.86
DATE	26	26	25	25	25	25	25	25	26	26	26	26
TIME	0050	0055	0055	0100	0110	0120	0130	0130	0205	0205	0230	0255
OCT	.03	.04	.08	.10	.16	.20	.24	.29	.32	.34	.38	.50
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1325	1430	1445	1440	2130	2130	2130	2130	2145	2145	1900	1900
NOV	.14	.14	.18	.20	.23	.35	.45	.53	.66	.76	.95	1.08
DATE	17	17	17	17	17	01	01	01	01	01	01	01
TIME	1315	1320	1440	1445	1455	0035	0035	0035	0035	0035	0035	0035
DEC	.04	.06	.12	.14	.22	.22	.28	.34	.38	.42	.47	.53
DATE	14	14	14	14	14	05	05	21	21	21	21	21
TIME	1630	1630	1635	1645	1650	1445	1500	0545	0610	0625	0655	0725
YEAR	.40	.67	.68	.71	.72	.80	.85	.85	.85	.85	.95	1.08
MONTH	07	07	07	07	07	07	07	07	07	07	11	11
PITTSBURGH, PENNSYLVANIA C.O.												
JAN	.02	.02	.02	.02	.03	.03	.04	.05	.06	.07	.09	.10
DATE	24	24	24	24	14	24	24	24	24	14	14	14
TIME	2125	2125	2215	[illegible]	0345	1815	1800	1805	1805	0400	0400	0400
FEB	.08	.09	.10	.10	.10	.15	.18	.22	.24	.24	.27	.27
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1130	1130	1130	1135	1145	1200	1215	1235	1215	1315	1315	1315
MAR	.09	.12	.13	.14	.18	.23	.28	.35	.44	.54	.63	.71
DATE	22	22	22	22	28	28	28	28	28	28	28	28
TIME	0700	0705	0705	0705	0500	0515	0525	0545	0605	0625	0640	0640
APR	.07	.10	[illegible]	.13	.20	.31	.39	.44	.49	.51	.69	.88
DATE	26	26	26	02	02	02	02	02	02	02	02	02
TIME	1508	1513	1515	0715	0730	0730	0740	0745	0825	0945	0945	0945
MAY	.24	.47	.50	.51	.62	.65	.83	1.03	1.05	1.05	1.05	1.05
DATE	18	18	18	18	24	24	18	18	18	18	18	18
TIME	0748	0753	0758	0803	1100	1115	0843	0903	0923	0943	1013	1043
JUN	.20	.24	.26	.31	.42	.50	.52	.52	.53	.55	.63	.68
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1810	1815	1820	1825	1835	1850	1905	1925	1945	2005	2035	2105
JUL	.27	.45	.47	.83	.84	.87	.91	.97	1.07	1.13	1.14	1.15
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	2010	2015	2020	2025	2035	2050	2105	2125	2145	2205	2235	2235
AUG	.27	.45	.47	.83	.84	.87	.91	.97	1.07	1.13	1.14	1.15
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	2010	2015	2020	2025	2035	2105	2125	2125	2145	2205	2235	2235
SEP	.12	.24	.25	.31	.33	.34	.35	.37	.40	.42	.42	.46
DATE	02	02	02	02	02	02	19	19	19	19	19	19
TIME	1420	1425	1430	1430	1430	1445	0135	0155	0215	0235	0305	0330
OCT	.06	[illegible]	.16	[illegible]	.28	.36	.46	.47	.48	.50	.62	.64
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0935	0935	0940	0940	0940	0940	0940	0940	0940	0940	0940	0940
NOV	.11	.15	.16	.17	.17	.17	.18	.22	.26	.26	.32	.34
DATE	07	07	07	07	07	07	10	10	10	10	10	10
TIME	1910	1915	1920	1925	1935	1945	1130	1150	1210	1210	1210	1210
DEC	.06	.10	.10	.12	.18	.20	.28	.32	.35	.42	.47	.49
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1300	1305	1305	0430	0640	0650	0735	0720	0745	0730	0730	0750
YEAR	.27	.47	.47	.83	.84	.87	.91	1.03	1.07	1.13	1.14	1.15
MONTH	08+	05	08+	08+	08+	08+	08+	05	08+	08+	08+	08+

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ALLENTOWN, PENNSYLVANIA												
JAN	.03	.04	.06	.07	.09	.13	.15	.19	.23	.23	.23	.23
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1133	1137	1140	1145	1140	1152	1205	1225	1240	1240	1240	1240
FEB	.17	.20	.23	.26	.31	.38	.43	.50	.53	.56	.67	.78
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1753	1754	1803	1808	1806	1821	1836	1856	1916	1936	1807	1833
MAR	.08	.13	.18	.21	.30	.42	.51	.62	.77	.97	1.17	1.30
DATE	13	13	13	22	22	22	22	22	22	22	22	22
TIME	1933	1938	1942	1910	1335	1515	1520	1515	1515	1515	1515	1515
APR	.06	.08	.13	.16	.20	.28	.30	.33	.35	.39	.49	.52
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1835	0050	0055	0100	0110	0125	0140	0155	0140	0155	0155	0155
MAY	.07	.09	.13	.15	.20	.25	.27	.32	.35	.39	.40	.41
DATE	05	18	18	18	18	18	18	18	18	18	18	18
TIME	1808	1720	1725	1730	1720	1735	1730	1810	1830	1850	1920	1920
JUN	.15	.23	.25	.30	.38	.46	.56	.62	.67	.70	.72	.72
DATE	20	20	20	25	25	25	25	25	25	25	25	25
TIME	1751	1753	1758	1900	1505	1525	1540	1600	1618	1615	1630	1635
JUL	.28	.39	.45	.51	.55	.75	.92	.98	1.33	1.47	1.51	1.53
DATE	19	19	19	19	25	25	19	19	19	19	20	20
TIME	2232	2237	2159	2204	1435	1435	2244	2304	2324	2344	0014	0044
AUG	.29	.35	.47	.57	.79	.81	.82	.82	.82	.82	.97	1.04
DATE	07	07	22	22	22	22	22	22	22	22	03	22
TIME	1248	1253	0300	0300	0300	0303	0303	0303	0303	0300	1300	0259
SEP	.11	.15	.19	.21	.29	.40	.51	.65	.80	.90	.95	1.01
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0325	0330	0330	0335	0329	0330	0329	0326	0330	0328	0329	0400
OCT	.13	.20	.23	.29	.33	.39	.46	.50	.54	.70	.72	.73
DATE	19+	14	14	14	14	14	16	16	16	16	16	16
TIME	1119	1442	1442	1443	1453	1508	1755	1815	1835	1855	1925	1950
NOV	.11	.12	.13	.15	.21	.28	.35	.42	.47	.48	.62	.63
DATE	11	11	11	07	07	07	07	07	08	08	08	08
TIME	2036	2038	2041	2330	2330	2330	2340	2345	0005	0025	0055	0055
DEC	.05	.09	.12	.14	.18	.27	.32	.35	.39	.45	.50	.54
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0205	0208	0205	0210	0211	0225	0232	0230	0230	0230	0230	0300
YEAR	.29	.39	.47	.57	.79	.81	.92	.98	1.33	1.47	1.51	1.53
MONTH	08	08+	08	08	08	08	07	07	07	07	07	07
PHILADELPHIA, PENNSYLVANIA												
JAN	.04	.06	.08	.09	.13	.18	.24	.27	.36	.42	.48	.54
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0640	0645	0650	0655	0705	0720	0735	0755	0800	0805	0805	0805
FEB	.10	.19	.24	.28	.32	.34	.36	.38	.40	.41	.48	.53
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1745	1750	1755	2100	2100	2100	2100	2100	2100	2100	2100	2100
MAR	.13	.19	.22	.32	.42	.50	.66	.71	.76	.87	1.03	1.17
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1310	1310	1315	1315	1315	1330	1345	1345	1345	1356	1356	1356
APR	.32	.40	.43	.48	.54	.60	.72	.94	1.11	1.34	1.49	1.56
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1635	1640	1645	1650	1700	1715	1640	1650	1650	1658	1658	1658
MAY	.07	.10	.11	.12	.13	.14	.17	.17	.17	.17	.17	.18
DATE	04	04	04	04	06	06	06	06	06	06	06	05
TIME	2345	2350	2350	2350	1550	1605	1620	1620	1620	1620	1620	0045
JUN	.32	.58	.63	.73	1.06	1.21	1.23	1.29	1.32	1.33	1.34	1.39
DATE	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+
TIME	1835	1840	1845	1850	1900	1905	1920	1940	1940	2000	2030	2120
JUL	.09	.17	.19	.23	.33	.36	.37	.38	.40	.42	.42	.42
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1650	1655	1700	1705	1715	1730	1745	1805	1825	1845	1845	1845
AUG	.70	1.01	1.09	1.14	1.16	1.19	1.21	1.21	1.21	1.21	1.21	1.21
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1330	1330	1335	1340	1350	1405	1417	1417	1417	1417	1417	1417
SEP	.26	.38	.39	.40	.49	.59	.80	1.00	1.04	1.06	1.13	1.15
DATE	19	19	19	19	25	25	25	25	25	25	25	25
TIME	2205	2210	2215	2220	1615	1605	1600	1610	1630	1650	1720	1750
OCT	.30	.40	.41	.44	.44	.44	.44	.44	.44	.44	.75	.78
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1732	1737	1737	1742	1742	1742	1742	1742	1742	1920	1950	2020
NOV	.17	.30	.38	.43	.54	.58	.66	.73	.82	.88	1.24	1.40
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0900	0905	0910	0915	0915	0925	0940	1000	1020	1040	1110	1140
DEC	.05	.10	.12	.16	.21	.25	.30	.38	.45	.48	.58	.66
DATE	05	05	05	05	05	05	05	05	05	18	18	18
TIME	1640	1640	1640	1640	1640	1640	1700	1700	1700	1300	1300	1300
YEAR	.70	1.01	1.09	1.14	1.16	1.21	1.23	1.29	1.32	1.34	1.49	1.56
MONTH	08	08	08	08	08	06	06	06	06	04	04	04
WILKES-BARRE-SCRANTON, PENNSYLVANIA												
JAN	.02	.03	.04	.05	.06	.07	.09	.10	.13	.13	.13	.13
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1240	1245	1245	1250	1300	1315	1330	1315	1330	1330	1330	1330
FEB	.06	.11	.12	.15	.19	.25	.31	.37	.42	.46	.54	.61
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1728	1733	1738	1743	1753	1808	1823	1843	1903	1923	1953	2023
MAR	.18	.28	.32	.39	.60	.78	.87	.93	.96	.97	1.00	1.03
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1933	1938	1943	1948	1948	1943	1958	2018	2038	2058	2128	2158
APR	.21	.35	.42	.50	.61	.75	.78	.80	.82	.88	.91	.91
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1850	1855	1900	1905	1915	1930	1945	2005	2025	2045	2115	2145
MAY	.12	.20	.20	.21	.21	.22	.23	.23	.24	.25	.26	.30
DATE	18	18	18	18	18	18	18	18	04	04	04	04
TIME	0255	0300	0305	0314	0320	0335	0350	0411	2015	2015	2015	2015
JUN	.26	.28	.29	.30	.30	.30	.32	.46	.52	.54	.54	.54
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0527	0532	0532	0542	0552	0607	0622	0642	0702	0722	0752	0822
JUL	.21	.28	.30	.32	.38	.43	.45	.48	.50	.50	.53	.53
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1850	1855	1900	1905	1900	1915	1930	1950	2000	2000	2000	2000
AUG	.21	.32	.43	.50	.55	.60	.68	.69	.70	.70	.71	.71
DATE	16	16	17	17	17	17	17	17	17	17	17	17
TIME	2355	2358	0002	0004	0014	0029	0030	0030	0030	0030	0030	0030
SEP	.24	.38	.60	.70	.81	.94	.96	1.10	1.17	1.21	1.28	1.33
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0418	0430	0430	0430	0430	0438	0430	0450	0510	0530	0530	0555
OCT	.07	.09	.11	.13	.16	.23	.31	.39	.49	.59	.74	.81
DATE	06	06	06	06	16	16	16	16	16	16	16	16
TIME	0635	0635	0635	0635	1625	1640	1800	1800	1800	1810	1825	1855
NOV	.17	.24	.28	.39	.43	.45	.47	.47	.50	.55	.63	.65
DATE	17	17	17	17	17	17	17	17	08	08	08	08
TIME	1416	1413	1418	1423	1428	1440	1455	1455	0105	0125	0155	0225
DEC	.03	.04	.06	.08	.10	.14	.20	.28	.32	.35	.41	.45
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1125	1130	1135	1220	1230	1245	1300	1320	1340	1320	1350	1500
YEAR	.26	.38	.60	.70	.81	.94	.96	1.10	1.17	1.21	1.28	1.33
MONTH	08	09	09	09	09	09	09	09	09	09	09	09

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ERIE, PENNSYLVANIA												
JAN	.01	.02	.02	.02	.03	.03	.03	.04	.06	.06	.07	.07
DATE	09	09	09	09	09	09	09	10	10	10	10	10
TIME	2145	2145	2145	2145	2145	2145	2145	0550	0610	0630	0700	0730
FEB	.10	.11	.12	.12	.13	.15	.16	.16	.16	.16	.17	.17
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1227	1230	1237	1237	1253	1253	1253	1253	1253	1253	1253	1253
MAR	.08	.10	.12	.14	.16	.19	.25	.33	.37	.40	.45	.50
DATE	04	04	04	04	28	18	18	18	18	18	18	18
TIME	1605	1610	1615	1620	0516	0245	0300	0305	0325	0345	0415	0445
APR	.06	.12	.15	.18	.22	.25	.29	.34	.41	.43	.47	.48
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1550	1552	1557	1600	1600	1600	1615	1650	1658	1714	1744	1814
MAY	.20	.40	.56	.64	.78	.84	.90	.95	.98	.99	1.00	1.00
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	2057	2100	2105	2105	2113	2128	2123	2135	2157	2210	2225	2225
JUN	.17	.27	.24	.27	.46	.54	.70	.83	.92	1.00	1.02	1.04
DATE	25	25	25	18	25	25	25	25	25	25	25	25
TIME	0402	0452	0457	0456	0427	0430	0455	0505	0530	0545	0615	0644
JUL	.30	.54	.76	.96	1.16	1.30	1.36	1.38	1.38	1.38	1.39	1.41
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1905	1910	1915	1920	1930	1945	1947	1947	2025	2045	2115	2200
AUG	.32	.60	.64	.74	.95	.99	1.00	1.07	1.20	1.25	1.32	1.32
DATE	13	13	13	05	05	05	05	06	06	06	06	06
TIME	2132	2137	2142	2055	2055	2055	2110	0118	0143	0200	0230	0300
SEP	.25	.40	.46	.53	.65	.80	1.02	1.32	1.44	1.44	1.45	1.50
DATE	19	13	13	13	24	24	24	24	24	24	24	24
TIME	1455	1844	1844	1843	1846	1901	1916	1936	1956	1956	1945	1945
OCT	.07	.11	.15	.19	.27	.40	.51	.65	.73	.78	.89	.93
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0222	0227	0232	0237	0247	0302	0317	0337	0357	0417	0447	0517
NOV	.06	.09	.12	.13	.13	.22	.25	.31	.35	.38	.47	.49
DATE	17	17	17	17	17	07	07	07	07	07	17	17
TIME	0046	0048	0053	0054	0110	0044	0659	0719	0739	0759	0308	0338
DEC	.06	.09	.10	.13	.19	.27	.32	.40	.43	.44	.49	.54
DATE	24	24	24	24	24	24	24	24	24	25	14	14
TIME	2302	2305	2305	2310	2320	2320	2335	2330	2350	0010	0030	0500
YEAR	.32	.60	.76	.96	1.16	1.30	1.36	1.38	1.44	1.44	1.45	1.50
MONTH	08	08	07	07	07	07	07	07	09	09	09	09
PITTSBURGH, PENNSYLVANIA												
JAN	.01	.02	.03	.04	.05	.06	.08	.10	.11	.12	.14	.15
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0515	0515	0515	0520	0530	0530	0530	0550	0610	0630	0700	0730
FEB	.03	.03	.03	.04	.04	.07	.08	.09	.09	.09	.09	.09
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0936	0944	0945	0947	1001	0933	0948	0947	0950	1015	1015	1015
MAR	.07	.09	.12	.13	.17	.20	.24	.27	.30	.31	.35	.40
DATE	18	18	13	18	18	18	13	13	13	13	18	13
TIME	0110	1021	0205	1030	1040	1050	0220	0240	0230	0230	0640	0215
APR	.06	.10	.12	.13	.17	.22	.30	.40	.47	.56	.71	.85
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	0725	0730	0735	0745	0755	0755	0722	0742	0802	0903	0852	0922
MAY	.34	.39	.39	.40	.44	.51	.55	.60	.61	.61	.62	.62
DATE	18	19	18	18	06	06	06	06	06	06	06	06
TIME	1310	1315	1320	1325	1500	1515	1528	1548	1607	1628	1714	1728
JUN	.18	.27	.23	.24	.26	.27	.28	.29	.30	.31	.35	.40
DATE	31	31	31	31	31	27	27	27	27	27	27	27
TIME	2334	2339	2344	2349	2359	1705	1705	1718	1715	1705	1700	1705
JUL	.30	.38	.61	.65	.66	.68	.69	.70	.79	.81	.81	.81
DATE	05	05	07	07	07	07	07	07	07	07	07	07
TIME	1310	1320	2005	2010	2020	2035	2050	2110	2130	2150	2220	2220
AUG	.20	.33	.39	.40	.40	.55	.75	.77	.77	.77	.77	.77
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1715	1718	1723	1728	1738	1753	1808	1828	1828	1828	1828	1828
SEP	.25	.33	.47	.49	.51	.53	.55	.56	.58	.59	.59	.60
DATE	19	19	19	19	19	19	19	19	19	19	19	02
TIME	0020	0025	0030	0035	0045	0100	0115	0135	0155	0215	0215	1451
OCT	.12	.22	.24	.28	.34	.47	.54	.55	.59	.67	.71	.81
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0907	0915	0915	0915	0915	0915	0925	0925	0925	0925	0920	0920
NOV	.09	.11	.13	.15	.17	.21	.23	.25	.25	.27	.31	.35
DATE	17	17	17	17	07	07	07	07	07	07	07	07
TIME	0246	0251	0256	0301	1828	1836	1836	1836	1836	1836	1836	1836
DEC	.05	.10	.12	.14	.19	.29	.34	.42	.46	.49	.51	.53
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0630	0640	0700	0705	0715	0730	0730	0750	0810	0830	0900	0930
YEAR	.34	.39	.61	.65	.66	.68	.75	.77	.79	.81	.81	.85
MONTH	05	05	07	07	07	07	08	08	07	07	07	04
BLOCK ISLAND, RHODE ISLAND												
JAN	.05	.07	.09	.11	.15	.22	.29	.33	.43	.52	.61	.73
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1134	1134	1134	1134	1134	1134	1134	1134	1212	1217	1230	1255
FEB	.06	.10	.14	.17	.21	.26	.31	.40	.43	.43	.43	.45
DATE	25	25	25	25	25	25	25	25	25	25	25	13
TIME	0017	0024	0028	0030	0030	0030	0045	0045	0055	0055	0055	1030
MAR	.20	.25	.30	.39	.44	.48	.54	.63	.72	.81	.94	1.01
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1855	1855	1855	1855	1855	1855	1855	1900	1900	1900	1900	1900
APR	.18	.33	.34	.37	.40	.43	.45	.50	.55	.61	.71	.80
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0611	0613	0613	0614	0618	0623	0623	0140	0140	0140	0140	0145
MAY	.06	.07	.08	.10	.15	.21	.25	.32	.35	.40	.43	.51
DATE	19	19	19	19	05	05	05	05	05	05	05	05
TIME	0514	0514	0514	0514	0315	0315	0330	0343	0347	0347	0417	0447
JUN	.12	.20	.22	.27	.33	.36	.50	.50	.50	.51	.66	.71
DATE	26	26	26	26	26	26	26	26	26	10	10	10
TIME	0145	0145	0145	0145	0150	0201	0215	0215	0215	0255	0320	0350
JUL	.28	.40	.47	.47	.47	.49	.50	.50	.50	.51	.55	.66
DATE	21	21	21	21	21	21	21	21	21	25	25	25
TIME	1958	2003	2003	2006	2018	2033	2048	2048	2048	1730	1800	1830
AUG	.26	.47	.52	.63	.66	.71	.75	1.00	1.13	1.20	1.28	1.37
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1035	1040	1045	1050	1100	1102	1102	1102	1102	1102	1130	1145
SEP	.32	.44	.55	.59	.67	.76	.82	.87	.90	.92	.92	.93
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1139	1141	1145	1145	1150	1158	1200	1220	1220	1240	1240	1310
OCT	.08	.12	.15	.16	.20	.22	.31	.37	.45	.50	.60	.71
DATE	16	16	16	16	16	16	14	14	14	14	14	14
TIME	1405	1245	1245	1405	1405	1405	0655	0655	0655	0655	0725	0725
NOV	.15	.22	.27	.27	.27	.27	.27	.27	.27	.27	.31	.31
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1420	1425	1430	1430	1430	1430	1430	1430	1430	1430	1650	1650
DEC	.09	.15	.20	.23	.28	.39	.45	.53	.61	.74	.84	.89
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1940	1940	1940	1940	1940	1955	2010	2015	2015	2030	2035	2035
YEAR	.32	.44	.55	.63	.67	.76	.82	1.00	1.13	1.20	1.28	1.37
MONTH	09	09	09	08	09	09	09	08	08	08	08	08

MAXIMUM SHORT DURATION PRECIPITATION

PROVIDENCE, RHODE ISLAND

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JAN	.10	[illegible]	.15	[illegible]	.27	.39	[illegible]	.64	.75	.84	1.17	1.22
DATE	[illegible]	10	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	1220	[illegible]	1220	[illegible]	1220	1220	1250	[illegible]	[illegible]	[illegible]	1450	1290
FEB	.10	.20	.23	.27	[illegible]	.37	.52	.61	[illegible]	.68	.74	[illegible]
DATE	25	25	25	25	25	25	25	25	25	29	25	25
TIME	[illegible]	0125	[illegible]	0125	0125	0125	0125	0135	0145	[illegible]	[illegible]	[illegible]
MAR	.10	[illegible]	[illegible]	[illegible]	.25	.32	.35	[illegible]	.45	[illegible]	[illegible]	[illegible]
DATE	[illegible]	3	[illegible]	[illegible]	[illegible]	13	[illegible]	13	22	22	22	22
TIME	1735	[illegible]	[illegible]	[illegible]	[illegible]	1730	[illegible]	[illegible]	1945	[illegible]	1930	[illegible]
APR	[illegible]	.08	.11	[illegible]	[illegible]	.28	.30	[illegible]	.40	.54	.68	.76
DATE	[illegible]	5	09	[illegible]	[illegible]	5	[illegible]	05	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	0260	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0320	[illegible]	[illegible]	0330	[illegible]
MAY	.17	.29	.39	[illegible]	.58	[illegible]	.69	.82	[illegible]	.80	[illegible]	[illegible]
DATE	[illegible]	19	19	19	[illegible]	19	19	19	19	19	[illegible]	19
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0123	[illegible]	0202	0222	[illegible]	0312	[illegible]
JUN	[illegible]	[illegible]	.14	[illegible]	.15	.15	.23	.30	.37	[illegible]	[illegible]	.50
DATE	[illegible]	[illegible]	14	10	[illegible]	18	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1053	[illegible]	[illegible]	[illegible]	[illegible]	0423	[illegible]	[illegible]	[illegible]	[illegible]
JUL	[illegible]	.25	.30	[illegible]	.35	.37	.38	.42	[illegible]	.63	.79	.80
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	[illegible]	1525	[illegible]	1545	[illegible]	1545	1542	[illegible]	[illegible]	1545	1615

CHARLESTON, SOUTH CAROLINA

GREENVILLE-SPARTANBURG, SOUTH CAROLINA

ABERDEEN, SOUTH DAKOTA

HURON, SOUTH DAKOTA

RAPID CITY, SOUTH DAKOTA

SIOUX FALLS, SOUTH DAKOTA

BRISTOL, TENNESSEE

MAXIMUM SHORT DURATION PRECIPITATION

YEAR 1977

Maximum precipitation in inches (5 to 180 minutes)

CHATTANOOGA, TENNESSEE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.16	.17	.19	.22	[illegible]	.23	.30	.39	.47	.53	.64	.69
DATE	[illegible]	09	09	09	[illegible]	09	09	09	09	09	09	09
TIME	[illegible]	1459	[illegible]	[illegible]	1510	1515	1515	1509	1505	1520	1652	1652
FEB	.22	.40	.46	.47	.48	.51	.60	.67	.80	.94	1.08	1.18
DATE	27	27	27	27	27	27	27	24	24	24	24	24
TIME	[illegible]	[illegible]	0119	0124	0134	0144	[illegible]	0017	0037	0057	0127	0157
MAR	.23	.31	.45	.53	.73	.80	1.03	1.27	1.50	1.60	1.66	1.74
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1710	1712	1720	1743	1733	1729	1744	1804	1824	1844	1914	1944
APR	.59	.76	.85	.93	1.19	1.32	1.32	1.42	1.42	1.42	1.42	1.42
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1952	1958	[illegible]	[illegible]	2015	2024	2029	2029	2049	2049	2139	2209
MAY	[illegible]	.46	.48	.50	.53	.53	.55	.55	.55	.55	.55	.55
DATE	[illegible]	25	25	25	25	25	25	25	25	25	25	25
TIME	1535	1540	1645	1651	[illegible]	1708	1713	1723	1743	1808	1833	1903
JUN	.05	.40	.50	.51	.51	.52	.52	.52	.52	.52	.52	.52
DATE	[illegible]	06	06	06	17	17	17	17	17	17	17	17
TIME	1043	1048	1053	1058	1349	1401	1409	1409	1409	1409	1409	1409
JUL	.18	.29	.26	.31	.32	.34	.34	.34	.34	.34	.34	.34
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1839	1844	1844	1844	1845	1845	1900	1920	1940	2000	2030	2100
AUG	.24	.54	.64	.64	.70	.87	.87	.87	.98	1.04	1.09	1.09
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1343	1348	1351	1355	[illegible]	1415	1430	1450	1510	1530	1600	1630
SEP	.28	.49	.64	.73	1.10	1.25	1.44	1.52	1.78	1.90	2.00	2.28
DATE	[illegible]	06	[illegible]	[illegible]	[illegible]	16	15	07	16	16	07	07
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0955	[illegible]	1010	1105	0958	1018	[illegible]	1105
OCT	.16	.30	.38	.44	.54	.63	.73	.95	1.08	1.21	1.47	1.80
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1340	1340	1340	1342	1352	1352	1352	1340	1340	1340	1340	1340
NOV	.15	.27	[illegible]	[illegible]	.33	.55	.59	.67	.83	.84	.85	.82
DATE	[illegible]	05	05	05	05	05	05	05	05	05	05	21
TIME	[illegible]	[illegible]	0435	0435	0440	0442	0437	0437	0530	0530	0530	1153
DEC	.02	.14	.15	.16	.18	.21	.25	.28	.33	.38	.44	.61
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1925	1937	1935	1940	1945	1945	1947	[illegible]	1810	1815	1925	1925
YEAR	.59	.76	.85	.93	1.19	1.32	1.44	1.52	1.78	1.90	2.00	2.28
MONTH	04	04	04	04	04	04	09	09	09	09	09	09

NASHVILLE, TENNESSEE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.09	.11	.15	.20	.22	.24	.25	.26	.29	.31
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0517	0522	0527	0432	0542	0557	0612	0632	0652	0712	0742	0812
FEB	.07	.13	.18	.22	.30	.43	.56	.73	.82	.95	1.08	1.26
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	[illegible]	[illegible]	2005	2005	[illegible]	[illegible]	2005	2005	2005	1955	2005	2030
MAR	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
APR	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
MAY	.15	.23	.25	.27	.28	.32	.32	.35	.36	.37	.39	.40
DATE	[illegible]	[illegible]	02	02	02	02	02	02	07	07	07	07
TIME	[illegible]	1850	[illegible]	1855	1905	1920	1935	1955	0305	0325	0355	0420
JUN	.49	.63	.70	[illegible]	[illegible]	.94	.99	1.12	1.12	1.12	1.12	1.12
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1345	1349	1353	[illegible]	[illegible]	1403	[illegible]	[illegible]	1410	1400	1400	1400
JUL	[illegible]	.17	.19	[illegible]	[illegible]	.29	.35	.36	.39	.44	.49	.54
DATE	24	24	24	24	24	28	28	28	28	28	28	28
TIME	1032	1037	1042	1047	1057	1745	1830	1820	1840	1900	1930	2000
AUG	.47	[illegible]	.55	.77	.85	.88	.95	.98	1.05	1.12	1.12	1.14
DATE	14	14	14	[illegible]	14	14	14	14	14	14	14	14
TIME	0943	[illegible]	0944	[illegible]	0945	0956	1015	1032	1052	1113	1142	1212
SEP	.23	.27	.37	.45	.69	.75	.78	.80	.84	.90	.97	.97
DATE	05	05	05	05	[illegible]	05	05	05	05	05	05	05
TIME	0440	0445	0430	0435	0445	0500	0515	0535	0555	0615	0645	0715
OCT	.21	.33	.35	.37	.47	.51	.52	.52	.52	.56	.65	.72
DATE	01	[illegible]	01	[illegible]	01	[illegible]	01	[illegible]	01	29	25	25
TIME	[illegible]	[illegible]	2050	2053	[illegible]	[illegible]	2120	2140	[illegible]	0800	0800	0800
NOV	.31	.58	.75	[illegible]	.87	.94	.99	1.05	1.11	1.15	1.18	1.20
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0425	0430	0435	0435	0444	0455	0510	0530	0545	0605	0635	0705
DEC	.08	.28	.28	[illegible]	.46	.53	[illegible]	.73	.85	.92	1.05	1.05
DATE	[illegible]	[illegible]	17	05	05	05	05	05	04	04	04	04
TIME	[illegible]	[illegible]	0625	0625	0435	0451	[illegible]	0525	1530	1530	1530	1530
YEAR	[illegible]	.63	[illegible]	[illegible]	.87	.99	[illegible]	1.12	1.12	1.15	1.18	1.26
MONTH	[illegible]	06	06	11	11	06	11+	06	06	11	11	02

AUSTIN, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.13	.18	.21	.22	.22	.23	.32	.34	.36	.37	.40	.43
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1013	[illegible]	1015	1015	1022	1034	1041	1032	1044	1031	1050	1122
FEB	.17	.20	.28	.34	.42	.47	.49	.49	.51	.51	.54	.59
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	0954	1002	[illegible]	1013	[illegible]	1030	1030	1027	1027	1027	1027
MAR	.13	.15	[illegible]	.25	.28	.32	.42	.53	.58	.71	.78	.78
DATE	26	26	26	26	26	03	03	03	03	03	03	03
TIME	[illegible]	[illegible]	1336	1341	1347	0714	0749	0957	0837	0842	0848	0918
APR	[illegible]	.39	.53	.62	.88	1.08	1.10	1.17	1.19	1.20	1.22	1.25
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0510	[illegible]	0527	0532	0543	0546	[illegible]	0609	0629	0649	0719	0759
MAY	.17	.20	.33	.39	.41	.46	.49	.49	.49	.52	.56	.63
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1528	0347	0345	[illegible]	0356	[illegible]	0422	0422	0422	0524	0600	0630
JUN	.13	[illegible]	.27	.31	.32	.32	.38	.46	.47	.48	.50	[illegible]
DATE	23	23	15	15	15	15	23	23	23	23	23	23
TIME	1432	1437	[illegible]	[illegible]	1419	1424	1527	1547	1607	1627	1657	1657
JUL	.08	.11	[illegible]	[illegible]	.15	.18	.18	.18	.18	.18	.18	.18
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1519	1521	1526	[illegible]	1544	1557	1602	1602	1602	1602	1602	1602
AUG	.03	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0610	[illegible]	[illegible]	0610	0610	0610	0610	0610
SEP	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
OCT	[illegible]	[illegible]	.19	[illegible]	.23	[illegible]	.32	.41	.47	.50	.51	.53
DATE	22	22	21	21	21	21	22	22	22	22	22	22
TIME	[illegible]	[illegible]	2039	[illegible]	2048	2104	[illegible]	0920	0940	0940	1000	1000
NOV	.08	.21	.26	.32	.38	[illegible]	.47	.49	.57	[illegible]	.54	.55
DATE	[illegible]	[illegible]	01	[illegible]	[illegible]	[illegible]	01	[illegible]	01	01	01	01
TIME	1228	[illegible]	[illegible]	0459	[illegible]	[illegible]	1249	1249	1249	1302	1332	1342
DEC	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	[illegible]
DATE	12	12	12	12	12	12	12	12	12	12	12	28
TIME	2310	[illegible]	2312	2312	2312	2312	2312	2312	2312	2312	2312	0736
YEAR	[illegible]	.39	[illegible]	.62	.88	[illegible]	1.16	1.17	1.19	1.20	1.22	1.25
MONTH	04	04	04	04	04	04	04	04	04	04	04	04

KNOXVILLE, TENNESSEE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.08	.09	.12	.15	.18	.23	.27	.34	.40	.45
DATE	27	27	09	09	09	09	09	09	09	09	09	09
TIME	1100	1105	1215	1220	1230	1245	1300	1220	1240	1300	1300	1330
FEB	.08	.10	.13	.15	.18	.23	.28	.33	.35	.37	.52	.60
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0345	0345	0345	0350	0400	0415	0430	0450	0510	0530	0600	0630
MAR	.20	.28	.30	.35	.42	.53	.63	.83	.97	1.05	1.15	1.18
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	0530	0535	0540	0455	0505	0500	0500	0535	0540	0600	0600	0630
APR	.50	.75	.93	.94	.95	.96	.97	.99	1.02	1.08	1.15	1.23
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1835	1839	1840	1845	1855	1907	1922	1940	2000	2020	2050	2120
MAY	.20	.30	.35	.38	.45	.48	.51	.55	.55	.55	.55	.55
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0700	0705	0710	0715	0725	0740	0755	0815	0835	0855	0925	0955
JUN	.30	.35	.38	.42	.44	.55	.70	.85	.95	1.05	1.10	1.13
DATE	22	22	22	19	19	14	14	14	14	14	14	14
TIME	1845	1850	1855	0005	0015	0040	0055	0115	0135	0155	0225	0225
JUL	.13	.17	.19	.19	.19	.19	.19	.19	.19	.19	.20	.21
DATE	[illegible]	25	25	25	25	25	25	25	25	25	27	29
TIME	1020	0829	0834	0839	0849	0853	0928	0928	0948	1008	1446	1516
AUG	.25	.35	.45	.55	.65	.90	1.10	1.14	1.20	1.35	1.40	1.40
DATE	08	08	08	08	08	15	15	15	15	15	15	15
TIME	2130	2135	2135	2135	2145	1553	1600	1620	1600	1600	1625	1655
SEP	.25	.49	.60	.67	.72	.83	.87	1.00	1.07	1.13	1.15	1.17
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	2135	2140	2145	2150	2200	2215	2150	2210	2230	2250	2320	2340
OCT	.13	.21	.24	.27	.29	.35	.41	.50	.57	.62	.69	.77
DATE	01	01	01	01	01	25	25	25	25	25	25	25
TIME	2345	2345	2345	2345	2345	1715	1700	1730	1730	1730	1730	1730
NOV	.13	.18	.21	.25	.28	.33	.43	.48	.58	.65	.73	.83
DATE	16	16	16	29	29	29	29	29	29	29	29	29
TIME	1500	1505	1510	0205	0215	0230	0245	0305	0230	0250	0320	0350
DEC	.29	.29	.30	.33	.38	.45	.48	.53	.55	.57	.60	.70
DATE	29	5	24	24	24	24	24	24	24	24	24	24
TIME	0835	0840	2030	2035	2045	2100	2050	2100	2100	2100	2100	2300
YEAR	.50	.75	.93	.94	.95	.96	1.10	1.14	1.20	1.35	1.40	1.40
MONTH	04	04	04	04	04	04	08	08	08	08	08	08

ABILENE, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.08	.10	.13	.16	.17	.18	.20	.20	.23	.24
DATE	08	08	08	08	08	08	08	09	09	09	09	09
TIME	2350	2355	2355	2355	2355	2355	2355	0025	0040	0025	0040	0040
FEB	.01	.02	.02	.02	.03	.04	.04	.05	.05	.06	.06	.06
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0943	0940	0945	0945	0939	0943	0945	0945	0945	0938	0945	0945
MAR	.15	.27	.32	.41	.48	.52	.55	.57	.62	.80	.88	1.10
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1432	1713	1714	1720	1730	1745	1750	1750	1750	1750	1750	1722
APR	.21	.39	.41	.46	.52	.55	.58	.60	.61	.62	.62	.62
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0859	0903	0907	0912	0915	0923	0938	0950	1023	1038	1100	1130
MAY	.06	.11	.12	.13	.14	.15	.16	.17	.19	.24	.24	.24
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1808	1813	1818	1823	1833	1848	1903	1923	1943	2003	2033	2103
JUN	.20	.33	.45	.55	.59	.61	.62	.62	.62	.62	.62	.62
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1225	1230	1235	1240	1245	1752	1253	1313	1333	1353	1423	1453
JUL	.19	.29	.35	.39	.44	.47	.50	.52	.74	.75	.80	.80
DATE	21	21	21	21	21	21	21	21	27	27	27	27
TIME	1828	1833	1835	1840	1850	1905	1920	1940	1931	1951	2021	2051
AUG	.30	.42	.44	.44	.45	.45	.45	.45	.48	.54	.55	.56
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	2108	2110	2115	2120	2130	2147	2150	2150	1734	1754	1824	1854
SEP	.02	.03	.04	.04	.04	.04	.05	.05	.05	.05	.06	.06
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1631	1631	1634	1639	1649	1704	1719	1739	1759	1819	1849	1919
OCT	.07	.12	.14	.15	.20	.23	.30	.37	.40	.43	.46	.55
DATE	07	22	22	22	22	22	22	22	22	22	22	22
TIME	0610	0405	0405	0405	0405	0405	0425	0408	0415	0426	0410	0405
NOV	.03	.05	.08	.10	.14	.17	.19	.21	.25	.29	.30	.34
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0318	0327	0330	0331	0340	0351	0405	0425	0442	0501	0537	0600
DEC	.03	.04	.05	.06	.08	.10	.14	.16	.18	.18	.19	.19
DATE	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	29+	29+
TIME	2253	2344	2345	2345	2312	2327	2346	2356	2356	2356	0002	0026
YEAR	.30	.42	.45	.55	.59	.61	.62	.62	.74	.80	.88	1.10
MONTH	08	08	06	06	06	06	06	06	07	03	03	03

BROWNSVILLE, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.05	.07	.09	.11	.12	.14	.15	.17	.18
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1800	1900	1750	1755	1742	1742	1742	1742	1742	1742	1614	1614
FEB	.05	.09	.11	.14	.18	.26	.29	.30	.32	.33	.39	.43
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0946	0922	0925	0932	0946	0952	0952	1020	1020	1052	0952	1010
MAR	.02	.02	.02	.03	.03	.04	.04	.04	.04	.05	.05	.05
DATE	31	31	31	24	24	24	24	24	24	24	24	24
TIME	1100	1100	1100	0126	0126	0126	0126	0126	0126	0126	0126	0126
APR	.39	.69	.90	.96	1.14	1.37	1.67	2.31	2.57	2.75	3.46	3.64
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0543	0548	0548	0550	0548	0550	0548	0550	0550	0555	0638	0650
MAY	.11	.18	.24	.28	.35	.38	.38	.40	.42	.43	.43	.43
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0321	0328	0331	0336	0339	0344	0409	0429	0449	0450	0450	0450
JUN	.31	.50	.64	.80	.93	1.13	1.23	1.29	1.45	1.53	1.54	1.60
DATE	12	12	12	23	23	23	23	23	23	12	12	23
TIME	1204	1205	1206	0950	1000	1015	1028	1028	1032	1233	1303	1032
JUL	.09	.10	.11	.12	.12	.12	.12	.12	.12	.12	.12	.12
DATE	14	15	15	15	15	15	15	15	15	15	15	15
TIME	0930	0938	0941	0945	0945	0945	0945	0945	0945	0945	0945	0945
AUG	.14	.19	.21	.24	.31	.35	.36	.38	.38	.40	.42	.43
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0851	0858	0901	0906	0916	0931	0940	1000	1020	1040	1110	1140
SEP	.17	.32	.48	.64	.80	.85	.87	.89	.90	.94	1.03	1.06
DATE	14	14	14	14	14	14	14	14	14+	02	02	02
TIME	0510	0523	0528	0533	0543	0558	0613	0633	0653	1740	1812	1832
OCT	.20	.38	.52	.60	.81	.95	1.04	1.19	1.42	1.53	1.54	1.66
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1115	1115	1115	1116	1120	1131	1144	1144	1127	1147	1217	1247
NOV	.31	.56	.65	.72	.83	1.03	1.16	1.31	1.48	1.54	1.54	1.56
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1708	1713	1717	1722	1732	1747	1800	1749	1806	1820	1826	1826
DEC	.01	.02	.02	.03	.04	.04	.05	.05	.06	.06	.06	.07
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1246	1307	1307	1316	1316	1316	1335	1357	1357	1357	1357	1540
YEAR	.39	.69	.90	.96	1.14	1.37	1.67	2.31	2.57	2.75	3.46	3.64
MONTH	04	04	04	04	04	04	04	04	04	04	04	04

MEMPHIS, TENNESSEE

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.09	.10	.12	.18	.26	.30	.34	.38	.40	.44	.46
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0611	0613	0618	0620	0620	0620	0636	0656	0706	0711	0724	0742
FEB	.20	.30	.36	.38	.48	.57	.67	.81	.92	.93	.95	.98
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1131	1135	1140	1145	1155	1210	1225	1245	1305	1325	1355	1424
MAR	.20	.27	.42	.45	.49	.54	.59	.69	.72	.79	.91	.99
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1434	1439	1437	1442	1453	1508	1523	1543	1603	1447	1537	1607
APR	.19	.37	.44	.55	.58	.60	.80	1.24	1.33	1.37	1.37	1.37
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1331	1330	1331	1331	1337	1352	1317	1337	1357	1410	1440	1510
MAY	.11	.17	.23	.25	.25	.29	.32	.32	.34	.34	.36	.37
DATE	25	25	08	08	08	08	08	08	08	08	08	08
TIME	1348	1348	1728	1732	1742	1758	1756	1816	1836	1840	1842	1840
JUN	.32	.47	.68	.85	1.02	1.11	1.11	1.12	1.13	1.13	1.15	1.17
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1357	1401	1406	1411	1417	1425	1440	1500	1520	1540	1610	1630
JUL	.47	.71	.85	.97	1.31	1.52	1.65	1.93	1.94	1.94	1.94	1.94
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1933	1934	1934	1934	1934	1944	1959	2019	2024	2045	2045	2065
AUG	.18	.34	.47	.59	.71	.73	.73	.73	.73	.73	.73	.73
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	2044	2045	2050	2100	2104	2120	2120	2120	2120	2120	2120	2120
SEP	.26	.39	.68	[illegible]	.79	1.00	1.12	1.25	1.42	1.96	2.07	2.17
DATE	27	27	24	24	24	24	24	24	24	24	24	24
TIME	0642	0646	1054	1054	1058	1059	1100	1058	1059	1058	1152	1152
OCT	.07	.11	.14	.18	.19	.24	.25	.28	.41	.48	.53	.58
DATE	25	25	25	25	25	25	25	24	25	25	25	25
TIME	0330	0333	0338	0334	0346	0112	0126	2354	0100	0109	0118	0110
NOV	.46	.73	.81	.84	.89	.93	.95	1.26	1.31	1.33	1.37	1.41
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0120	0125	0130	0135	0145	0200	0124	0141	0201	0221	0251	0321
DEC	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
YEAR	.47	.73	.85	.97	1.31	1.52	1.65	1.93	1.94	1.96	2.07	2.17
MONTH	07	11	07	07	07	07	07	07	07	09	09	09

AMARILLO, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.03	.04	.05	.07	.08	.11	.12	.12	.13	.15
DATE	01	01	01	01	01	01	01	01	01	01	09	09
TIME	2135	2143	2145	2150	2200	2215	2230	2237	2237	2237	0230	0300
FEB	.01	.02	.02	.03	.03	.04	.05	.06	.07	.09	.10	.10
DATE	23	23	23	23	11	11	11	11	11	11	11	11
TIME	0010	0010	0015	0807	1115	1145	1145	1145	1145	1145	1215	1230
MAR	.02	.04	.04	.05	.05	.05	.06	.09	.10	.10	.12	.15
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0943	0947	0945	0947	0947	0958	0947	0947	0947	0947	0947	0947
APR	.17	.31	.33	.34	.35	.35	.48	.55	.57	.58	.58	.58
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1735	1737	1740	1745	1745	1800	1826	1845	1855	1915	1945	2015
MAY	.45	.75	.94	.97	.97	.97	.97	.97	.97	.97	.97	.97
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1916	1916	1919	1924	1934	1949	2004	2024	2044	2104	2134	2204
JUN	.13	.23	.32	.40	.45	.52	.57	.58	.58	.58	.58	.58
DATE	13	28	28	28	28	28	24	24	24	24	24	24
TIME	1714	1913	1910	1913	1925	1936	2027	2047	2107	2127	2157	2227
JUL	.35	.60	.95	1.02	1.05	1.05	1.07	1.10	1.13	1.14	1.17	1.19
DATE	09	09	26	26	27	27	27	27	27	27	27	27
TIME	1420	1425	2345	2350	0000	0015	0030	0050	0110	0130	0200	0225
AUG	.30	.54	.70	.80	.86	.96	1.03	1.05	1.10	1.13	1.16	1.16
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0102	0104	0108	0111	0121	0130	0151	0211	0155	0215	0245	0315
SEP	.01	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1400	1405	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410
OCT	.02	.02	.03	.03	.04	.05	.06	.07	.08	.09	.11	.12
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0935	0939	0945	1220	1230	1245	1300	1320	1340	1400	1416	1446
NOV	.02	.03	.03	.04	.05	.06	.06	.06	.07	.07	.07	.08
DATE	07	07	07	07	07	07	07	07	07	07	07	08
TIME	1503	1508	1513	1518	1528	1532	1547	1607	1627	1647	1717	2300
DEC	.03	.04	.05	.06	.08	.11	.14	.15	.16	.16	.20	.21
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1259	1304	1304	1310	1320	1335	1350	1410	1430	1435	1405	1435
YEAR	.45	.75	.95	1.02	1.05	1.05	1.07	1.10	1.13	1.14	1.17	1.19
MONTH	05	05	07	07	07	07	07	07	07	07	07	07

CORPUS CHRISTI, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.10	.15	.17	.23	.29	.36	.43	.48	.53	.58	.61
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1137	1137	1137	1142	1149	1152	1151	1155	1212	1223	1223	1223
FEB	.03	.05	.06	.07	.08	.10	.12	.13	.15	.17	.20	.23
DATE	10	01	01	01	01	10	10	10	02	10	10	10
TIME	0746	0558	0601	0604	0610	2210	2215	2215	1928	2215	2251	2306
MAR	.15	.23	.25	.29	.36	.37	.37	.37	.37	.37	.37	.37
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1803	1807	1805	1811	1813	1827	1843	1903	1923	1943	2013	2043
APR	.35	.48	.70	.84	.98	1.02	1.06	1.12	1.25	1.36	1.69	1.95
DATE	16	30	30	30	30	30	30	30	30	30	30	30
TIME	0345	0647	0650	0655	0714	0719	0734	0749	1433	1449	0905	0930
MAY	.36	.58	.84	1.05	1.22	1.28	1.28	1.28	1.28	1.28	1.28	1.28
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	0812	0816	0816	0816	0820	0833	0833	0833	0833	0833	0833	0833
JUN	.34	.50	.63	.66	.81	.92	1.05	1.28	1.35	1.57	1.85	1.98
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1312	1315	1316	1320	1448	1502	1518	1538	1441	1500	1531	1548
JUL	.20	.29	.29	.29	.30	.31	.31	.31	.31	.31	.31	.31
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	0545	0551	0556	0601	0611	0626	0641	0701	0721	0741	0811	0841
AUG	.06	.11	.14	.15	.15	.15	.16	.16	.16	.16	.16	.20
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0631	0636	0641	0646	0656	0711	0726	0746	0806	0826	0856	0926
SEP	.12	.22	.22	.22	.22	.22	.22	.22	.22	.23	.24	.24
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1544	1543	1548	1553	1603	1618	1633	1653	1713	1546	1613	1643
OCT	.26	.48	.63	.77	1.01	1.08	1.10	1.28	1.33	1.35	1.38	1.38
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0134	0138	0138	0139	0147	0157	0212	0235	0252	0255	0325	0355
NOV	.30	.50	.61	.67	.71	.77	.81	.84	.85	.85	.85	.86
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1647	1649	1653	1657	1705	1720	1735	1755	1815	1835	1905	1824
DEC	.01	.02	.03	.04	.04	.05	.05	.05	.05	.05	.05	.05
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0239	0244	0250	0254	0254	0305	0320	0340	0400	0420	0450	0520
YEAR	.36	.58	.84	1.05	1.22	1.28	1.28	1.28	1.35	1.57	1.85	1.98
MONTH	05	05	05	05	05	05	05	10+	06	06	06	06

MAXIMUM SHORT DURATION PRECIPITATION

DEL RIO, TEXAS

EL PASO, TEXAS

FORT WORTH, TEXAS

GALVESTON, TEXAS

HOUSTON, TEXAS

[illegible], TEXAS

[illegible], TEXAS

MIDLAND, TEXAS

PORT ARTHUR, TEXAS

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

[illegible] TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.03	[illegible]	.05	.06	.07	[illegible]	.10	.10	.11	.11	.11
DATE	[illegible]	02	02	02	30	30	02	02	30	30	30	30
TIME	[illegible]	0450	1452	[illegible]	1335	1350	[illegible]	0800	1445	1505	1505	1505
FEB	[illegible]	[illegible]	.03	.04	[illegible]	.05	.06	.06	.07	.08	.10	.12
DATE	[illegible]	[illegible]	07	07	07	07	07	07	07	07	08	08
TIME	[illegible]	[illegible]	[illegible]	2205	2215	2215	2230	2250	2310	2330	0000	0030
MAR	[illegible]	[illegible]	.20	.20	.21	.22	.27	.37	.43	.44	.50	.50
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1403	[illegible]	1415	1415	1415	1415	2210	2210	2215	2245	2310	2335
APR	.18	.20	.27	.32	.35	.45	.50	.64	.75	.80	.90	1.00
DATE	15	15	15	15	15	15	15	15	15	15	16	16
TIME	[illegible]	0337	0342	0347	0345	0335	0350	0410	0400	0400	1540	1600
MAY	.27	.33	.37	.39	.42	.42	.43	.43	.50	.55	.60	.79
DATE	15	15	15	15	15	15	15	15	10	10	10	11
TIME	[illegible]	0530	0530	0532	0532	0537	0548	0615	2345	2345	2350	0015
JUN	[illegible]	.12	.12	[illegible]	.13	.13	.13	.13	.13	.14	.15	.15
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1225	1230	1230	1233	1245	1245	1245	1245	1245	1245	1245	1245
JUL	[illegible]	.25	[illegible]	[illegible]	[illegible]	.30	.31	.31	.33	.33	.33	.33
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	[illegible]	2022	2032	2047	2050	2050	2050	2050	2050	2050
AUG	.13	.25	.27	.30	.32	.33	.33	.33	.33	.33	.33	.33
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	[illegible]	0652	0657	0707	0718	0733	0753	0813	0833	0933	0933
SEP	.03	.04	.04	.14	.15	.15	.15	.15	.15	.15	.15	.15
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1308	1313	1318	1323	1323	1333	1333	1333	1333	1333	1333	1333
OCT	.25	.30	.35	.40	.47	.51	.55	.58	.60	.63	.65	.65
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0015	[illegible]	0045	0105	0125	0145	0200	0200
NOV	.03	.05	.06	.07	.10	.12	.16	.17	.17	.20	.26	.30
DATE	07	07	07	07	07	07	07	07	07	07	08	08
TIME	[illegible]	2115	2120	2125	0230	2150	2205	2225	2245	2305	0300	0240
DEC	.04	.05	.06	.07	.09	.11	.11	.13	.15	.15	.15	.15
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	2210	2215	2220	2225	2235	2250	2315	2325	2330	2330	2330	2330
YEAR	.27	.33	.37	[illegible]	.47	.51	.56	.64	.75	.80	.90	1.00
MONTH	[illegible]	05	05	[illegible]	[illegible]	10	04	04	04	04	04	04

WACO, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.04	[illegible]	.07	[illegible]	[illegible]	.13	.18	.19	.21	.23	.31	.37
DATE	[illegible]	[illegible]	02	02	02	02	02	02	02	02	02	02
TIME	[illegible]	[illegible]	0747	0752	[illegible]	1015	1025	1025	1025	1025	1025	1025
FEB	.08	.34	.44	.49	.57	.62	.76	.83	.98	1.18	1.30	1.41
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	[illegible]	[illegible]	0846	0858	[illegible]	0918	0932	0952	1031	0902	0932	1002
MAR	[illegible]	.39	.48	.58	.69	.74	.78	.79	.81	.81	.81	.81
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0827	0829	0833	0838	0848	[illegible]	0918	0938	0958	1018	1048	1118
APR	.37	.47	.57	[illegible]	.85	1.03	1.07	1.15	1.22	1.28	1.35	1.42
DATE	20	20	20	20	14	20	20	20	20	20	20	20
TIME	[illegible]	[illegible]	0012	0017	0044	0037	0052	0112	0132	0152	0222	0252
MAY	[illegible]	.51	[illegible]	.67	.67	.67	.67	.67	.67	.67	.67	.68
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	[illegible]	[illegible]	1545	1550	1600	1550	1605	1625	1645	1705	1739	1545
JUN	[illegible]	[illegible]	[illegible]	[illegible]	.23	.27	.30	.32	.33	.33	.34	.35
DATE	[illegible]	[illegible]	12	12	12	12	12	13	13	13	13	13
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2326	2341	2356	0016	0036	0056	0126	0156
JUL	[illegible]	[illegible]	[illegible]	[illegible]	.15	.15	.16	.16	.16	.16	.16	.16
DATE	[illegible]	[illegible]	29	29	29	29	29	29	29	29	29	29
TIME	1652	[illegible]	[illegible]	1655	[illegible]	1720	1735	1755	1815	1835	1905	1935
AUG	[illegible]	[illegible]	.74	1.02	1.15	1.25	1.27	1.29	1.30	1.30	1.30	1.32
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2015	[illegible]	2045	2105	2125	2145	2145	2150
SEP	.04	.06	.07	.08	.12	.13	.13	.13	.13	.13	.13	.13
DATE	[illegible]	[illegible]	07	07	07	07	07	07	07	07	07	07
TIME	1422	1427	1432	1420	1430	1445	1510	1520	1540	1600	1630	1700
OCT	.13	.27	.28	.31	.42	.50	.59	.64	.70	.82	.87	.93
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1000	1020	1040	1100	1130	1135
NOV	.15	.20	.23	.24	.34	.37	.37	.37	.45	.60	.67	.67
DATE	29	29	29	29	[illegible]	01	01	01	29	29	29	29
TIME	[illegible]	0439	[illegible]	0444	1132	1147	1202	1222	0607	0627	0657	0727
DEC	[illegible]	[illegible]	[illegible]	[illegible]	.03	.03	[illegible]	[illegible]	.06	.06	.07	.07
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	[illegible]	0135	0135	[illegible]	0140	[illegible]	0150	0150	0150	0150	0150	0150
YEAR	.35	.57	.74	1.02	1.15	1.25	1.27	1.29	1.30	1.30	1.35	1.42
MONTH	[illegible]	08	08	08	[illegible]	08	08	08	08	08	04	04

SALT LAKE CITY, UTAH

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.03	[illegible]	.05	.07	.09	.10	.11	.14	.18	.20
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	[illegible]	[illegible]	1648	1654	[illegible]	1900	1903	1910	1930	2007	2039	2039
FEB	.04	.06	.07	[illegible]	.11	.14	.17	.20	.24	.28	.32	.33
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	[illegible]	2118	[illegible]	2144	2159	2220	2240	2252	2307	2318
MAR	.04	.05	.08	[illegible]	.09	.11	.12	.14	.17	.18	.21	.23
DATE	[illegible]	[illegible]	[illegible]	[illegible]	12	12	02	01	01	01	01	01
TIME	[illegible]	[illegible]	0322	0322	0321	0321	0321	2237	2237	2237	2237	2237
APR	.03	.04	.05	.06	.07	.11	.14	.18	.24	.27	.29	.30
DATE	[illegible]	02	02	02	02	14	14	14	14	14	14	14
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0610	[illegible]	1016	1016	1016	1010	1016	1047
MAY	[illegible]	[illegible]	[illegible]	.17	.18	.20	.29	.31	.35	.38	.42	.42
DATE	[illegible]	[illegible]	[illegible]	[illegible]	18	18	18	18	18	26	25	18
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1122	1135	1159	1206	2206	1235	1336
JUN	.05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.06	.06	.06	.06	.06	.06
DATE		08	08	08	[illegible]	08	08	08	08	08	08	08
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1440	1440	1440	1440	1440	1440	1440	1440
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.24	.25	.25	.25	.25	.25	.32
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0917	[illegible]	0959	[illegible]	[illegible]	1304	1326	1326	[illegible]	1320	1326	1248
AUG	.15	.40	.48	[illegible]	.48	.48	.48	.48	.48	.48	.48	.48
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	[illegible]	1831	1831	[illegible]	1840	1840	1840	1840	1840	1840	1840	1840
SEP	.35	.46	.57	.61	.62	.62	.63	.63	.63	.63	.64	.65
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1734	1739	1745	1747	1745	1755	1815	1815	1815	1815	1954	2024
OCT	.11	.14	.14	.15	.18	.24	.26	.29	.30	.38	.41	.45
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	[illegible]	1239	1240	1249	1255	1308	1326	1308	1310	1253	1322	1431
NOV	.04	.07	.08	[illegible]	.14	.18	.27	.31	.35	.39	.40	.51
DATE	19	19	19	19	19	19	19	19	19	19	20	20
TIME	[illegible]	2239	2242	2242	2251	2300	2306	2306	2346	2359	0020	0040
DEC	.03	.05	.06	.08	[illegible]	.15	.20	.28	.31	.35	.40	.43
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0344	0346	0350	0341	[illegible]	[illegible]	0416	[illegible]	0412	0429	0429	0435
YEAR	.35	.49	.57	.61	.62	.62	.63	.63	.63	.63	.64	.65
MONTH	[illegible]	08	09	09	09	09	09	09	09	09	09	09

SAN ANTONIO, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.04	.07	.10	.13	.18	.24	.27	.28	.29	.30	.32	.39
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1045	1050	1100	1105	1115	1120	1130	1130	1130	1130	1130	1320
FEB	.03	.05	.06	.07	.09	.10	.12	.13	.15	.17	.18	.20
DATE	10	08	08	08	08	08	08	08	08	08	08	08
TIME	1537	0054	0054	0054	0054	0054	0054	0054	0004	0004	0004	0004
MAR	.07	.09	.12	.12	.14	.17	.18	.19	.19	.22	.22	.22
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1543	1548	1553	1558	1608	1623	1638	1640	1640	1640	1640	1640
APR	.53	.74	.92	.97	1.21	1.98	2.28	2.34	2.35	2.47	2.50	2.51
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	2045	2049	2045	2049	2020	2045	2045	2108	2128	2148	2218	2248
MAY	.22	.41	.53	.59	.78	.90	.97	.98	.98	1.00	1.01	1.01
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0445	0449	0440	0447	0500	0510	0530	0548	0605	0625	0635	0635
JUN	.22	.24	.28	.29	.31	.33	.38	.39	.45	.46	.48	.50
DATE	23	23	21	21	23	23	23	23	23	23	23	23
TIME	0947	1247	1240	1243	1310	1325	1342	1345	1400	1400	1431	1445
JUL	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0634	0639	0639	0639	0639	0639	0639	0639	0639	0639	0639	0639
AUG	.02	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	1635	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640	1640
SEP	.20	.27	.32	.35	.47	.51	.52	.56	.64	.65	.85	.85
DATE	12	06	06	06	06	06	06	12	12	12	12	12
TIME	2145	0200	0205	0205	0210	0223	0238	2257	2300	2305	2345	2345
OCT	.52	.68	.75	.80	.89	.95	.98	.99	.99	.99	.99	1.01
DATE	23	23	23	23	23	23	23	23	23	23	23	22
TIME	1649	1653	1657	1658	1701	1714	1716	1739	1755	1815	1845	0850
NOV	.36	.72	.87	.89	.96	1.50	1.54	1.66	1.68	1.80	2.41	2.42
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0316	0321	0326	0330	0340	0355	0400	0420	0440	0400	0410	0440
DEC	.03	.05	.05	.05	.05	.05	.07	.08	.10	.13	.15	.19
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1228	1233	1238	1243	1253	1308	1323	1343	1403	1423	1453	1518
YEAR	.53	.74	.92	.97	1.21	1.98	2.28	2.34	2.35	2.47	2.50	2.51
MONTH	04	04	04	04	04	04	04	04	04	04	04	04

WICHITA FALLS, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.04	.07	.09	.11	.13	.14	.16	.17	.21	.21	.22	.25
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0745	0750	0755	0755	0755	0755	0800	0800	0800	0800	0830	0940
FEB	.06	.12	.15	.18	.24	.33	.37	.38	.39	.40	.45	.47
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1128	1202	0208	0212	0215	0230	0245	0245	0300	0245	0253	0300
MAR	.08	.13	.16	.18	.20	.25	.38	.38	.45	.53	.67	.68
DATE	10	10	10	10	10	26	27	10	10	10	10	10
TIME	1945	1945	1950	1950	2005	2340	0001	0150	0215	0235	0305	0335
APR	.15	.27	.31	.33	.48	.50	.50	.50	.50	.50	.50	.50
DATE	20	20	01	20	20	20	20	20	20	20	20	20
TIME	1750	1750	2145	1755	1750	1805	1820	1840	1900	1920	1950	2020
MAY	.30	.51	.56	.59	.61	.67	.67	.71	.77	.84	.90	.91
DATE	02	02	02	02	02	04	04	20	20	20	20	20
TIME	0835	0840	0845	0848	0905	1605	1605	2232	2252	2312	2342	2345
JUN	.27	.47	.52	.54	.61	.67	.74	.74	.74	.74	.74	.74
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	2330	2338	2340	2340	2340	2340	2350	2350	2350	2350	2350	2350
JUL	.23	.40	.50	.53	.56	.57	.57	.77	.94	.94	.94	.94
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	2105	2110	2115	2120	2130	2145	2200	2220	2240	2300	2330	0000
AUG	.38	.68	.92	.95	1.20	1.40	1.48	1.51	1.57	1.59	1.61	1.71
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0033	0033	0038	0043	0053	0108	0123	0143	0203	0223	0253	0323
SEP	.05	.08	.08	.08	.10	.11	.11	.12	.12	.12	.12	.12
DATE	12	12	12	12	06	12	12	12	12	12	12	12
TIME	1819	1824	1829	1834	1540	1900	1914	1934	1954	2014	2044	2114
OCT	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
NOV	.04	.04	.07	.07	.08	.11	.14	.16	.19	.21	.25	.28
DATE	07	07	07	07	07	07	08	08	08	08	08	08
TIME	2302	2309	2313	2340	2305	2305	0800	0800	0800	0800	0830	0900
DEC	T	.01	.02	.02	.03	.03	.03	.04	.04	.05	.05	.05
DATE		28	29	28	29	29	29	29	29	29	29	29
TIME		2340	2345	2350	0005	0025	0040	0100	0120	0140	0210	0240
YEAR	.38	.68	.92	.95	1.20	1.40	1.48	1.51	1.57	1.59	1.61	1.71
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

BURLINGTON, VERMONT

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.04	.05	.06	.08	.10	.12	.14	.16	.17	.18	.20
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1935	1935	1935	1935	1945	1945	1935	1945	1945	1945	1945	1945
FEB	.03	.04	.05	.06	.10	.13	.16	.18	.21	.23	.26	.28
DATE	13	13	13	13	25	25	25	25	25	25	25	25
TIME	1405	1409	1410	1415	1030	1035	1050	1115	1135	1155	1205	1215
MAR	.05	.07	.07	.09	.10	.16	.19	.26	.27	.27	.28	.30
DATE	30	30	30	16	16	16	16	16	16	16	28	28
TIME	0230	0237	0237	0932	0947	0928	0945	0955	0955	0955	1405	1440
APR	.07	.08	.08	.08	.09	.13	.14	.18	.22	.25	.28	.31
DATE	13	13	13	13	13	13	13	13	13	04	04	23
TIME	1834	1834	1834	1834	1834	1834	1834	1834	1834	1800	1800	1900
MAY	.03	.04	.05	.06	.08	.08	.08	.09	.10	.12	.14	.16
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1415	1415	1415	1415	1415	1415	1415	1510	1525	1545	1615	1645
JUN	.09	.18	.19	.21	.21	.21	.21	.21	.21	.21	.22	.22
DATE	25	17	17	17	17	17	17	17	17	17	07	07
TIME	1345	2248	2251	2259	2313	2320	2335	2330	2345	2359	0530	0600
JUL	.12	.24	.28	.38	.53	.53	.56	.75	.81	.81	.92	1.08
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	1027	1030	1033	1042	1047	1102	1118	1141	1201	1220	1247	1318
AUG	.21	.28	.30	.38	.50	.56	.71	1.09	1.18	1.27	1.51	1.86
DATE	04	04	04	04	04	17	17	17	17	17	17	17
TIME	0720	0723	0728	0731	0740	0155	0240	0240	0240	0240	0240	0240
SEP	.28	.47	.58	.67	.96	1.07	1.13	1.17	1.19	1.22	1.25	1.25
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1650	1655	1700	1705	1715	1730	1745	1755	1755	1755	1755	1755
OCT	.03	.04	.08	.10	.14	.16	.26	.31	.35	.38	.46	.57
DATE	14	14	14	14	15	17	17	17	17	17	17	17
TIME	2335	2340	2345	2350	0000	0445	0710	0740	0710	0530	0600	0630
NOV	.06	.08	.09	.11	.14	.17	.21	.28	.31	.34	.41	.49
DATE	11	11	02	02	26	26	26	26	26	26	26	26
TIME	0200	0200	1100	1105	0500	0515	0530	0550	0610	0630	0700	0720
DEC	.03	.04	.05	.06	.08	.10	.14	.19	.22	.22	.25	.27
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	1445	1348	1345	1345	1345	1314	1327	1349	1450	1415	1446	1512
YEAR	.28	.47	.58	.67	.96	1.07	1.13	1.17	1.19	1.27	1.51	1.86
MONTH	09	09	09	09	09	09	09	09	09	08	08	08

VICTORIA, TEXAS

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.09	.11	.13	.19	.21	.26	.27	.27	.29	.33	.33
DATE	01	01	01	01	01	01	01	01	01	02	02	02
TIME	1221	1231	1231	1237	1247	1301	1316	1351	1251	1230	1303	1333
FEB	.19	.24	.26	.29	.31	.38	.42	.45	.48	.52	.63	.77
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1035	1040	1045	1050	1100	1115	1119	1119	1119	1119	1049	1106
MAR	.08	.11	.11	.12	.16	.17	.25	.27	.34	.36	.36	.41
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1400	1400	1400	1400	1402	1402	1400	1415	1448	1500	1500	1500
APR	.28	.43	.57	.87	.90	1.08	1.40	1.41	1.58	1.66	1.68	1.77
DATE	18	20	20	20	20	20	20	20	20	20	20	20
TIME	0621	0929	0933	0937	0945	1000	1013	1030	1002	1017	1040	1030
MAY	.39	.69	.90	1.17	1.35	1.40	1.40	1.43	1.48	1.50	1.53	1.53
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0725	0728	0721	0738	0741	0755	0755	0825	0800	0820	0840	0840
JUN	*.85	*1.60	*1.98	2.42	*2.60	2.71	3.21	3.77	4.19	4.25	4.32	4.40
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0325	0330	0335	0334	0344	0357	0344	0333	0345	0410	0435	0611
JUL	.10	.14	.15	.16	.17	.20	.25	.25	.25	.25	.25	.25
DATE	10	10	10	05	05	05	05	05	05	05	05	05
TIME	0427	0433	0413	1507	1520	1533	1548	1548	1548	1548	1548	1548
AUG	.15	.34	1.10	1.17	1.20	1.21	1.22	1.22	1.22	1.22	1.22	1.22
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1152	1157	1200	1205	1215	1230	1245	1253	1253	1253	1253	1253
SEP	.33	.39	.41	.45	.58	.65	.76	.84	1.02	1.07	1.11	1.15
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1955	2000	2001	2005	2015	2030	2045	2107	2124	2140	2215	2315
OCT	.35	.59	.69	.72	.79	1.10	1.62	1.90	1.92	1.92	1.92	1.92
DATE	22	22	22	22	22	22	02	02	02	02	02	02
TIME	2116	2117	2120	2122	2132	2131	1448	1448	1512	1530	1530	1530
NOV	.28	.45	.45	.75	.79	.81	.93	.93	.93	.97	1.06	1.30
DATE	01	01	01	01	01	01	08	08	08	01	01	01
TIME	1450	1458	1500	1505	1515	1530	0914	0935	0952	1511	1507	1510
DEC	.05	.08	.10	.12	.14	.14	.14	.15	.15	.15	.18	.18
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0647	0647	0647	0658	0658	0658	0658	0817	0817	0817	0915	0915
YEAR	*.85	*1.60	*1.98	2.42	*2.60	2.71	3.21	3.77	4.19	4.25	4.32	4.40
MONTH	06	06	06	06	06	06	06	06	06	06	06	06

MILFORD, UTAH

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.04	.04	.04	.05	.05	.05	.05	.06	.06
DATE	22	22	22	22	22	22	03	03	03	03	03	03
TIME	1532	1532	1532	1532	1532	1532	1000	1000	1000	1000	1000	1000
FEB	.03	.03	.03	.03	.04	.04	.04	.04	.04	.04	.05	.07
DATE	21	21	25	25	25	25	25	25	25	25	25	25
TIME	2234	2234	0210	0215	0220	0220	0220	0220	0220	0220	0420	0455
MAR	.02	.02	.04	.04	.06	.07	.10	.11	.12	.15	.20	.23
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	0055	0055	0055	0055	0350	0350	0350	0350	0405	0405	0405	0405
APR	.04	.09	.09	.09	.09	.09	.09	.09	.15	.17	.17	.17
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1449	1449	1455	1500	1500	1500	1500	1500	1500	1500	1500	1500
MAY	.05	.10	.11	.11	.12	.13	.22	.29	.31	.35	.41	.47
DATE	14	14	14	14	14	13	14	14	14	14	14	14
TIME	1935	1940	1945	1949	1955	2355	0010	0010	0010	0010	0010	0010
JUN	.04	.07	.09	.10	.12	.12	.12	.12	.12	.12	.12	.12
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1721	1726	1731	1736	1741	1741	1741	1741	1741	1741	1741	1741
JUL	.08	.10	.13	.20	.22	.24	.25	.25	.26	.26	.26	.26
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	2047	2052	2057	2102	2102	2102	2102	2122	2128	2128	2128	2128
AUG	.14	.19	.23	.31	.42	.44	.45	.45	.46	.46	.48	.55
DATE	21	21	22	22	22	22	22	22	22	22	22	22
TIME	1312	1317	1546	1551	1601	1601	1605	1620	1650	1715	1745	1815
SEP	.03	.04	.05	.06	.08	.11	.11	.11	.11	.11	.11	.11
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	1948	1958	2002	2005	1955	2005	2020	2040	2100	2120	2150	2220
OCT	.06	.06	.07	.07	.08	.08	.09	.10	.10	.10	.10	.10
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	2029	2034	2039	2044	2054	2109	2124	1520	1540	1600	1630	1700
NOV	.02	.02	.03	.04	.05	.05	.06	.07	.07	.08	.09	.09
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
DEC	.06	.06	.07	.08	.09	.10	.11	.11	.11	.11	.11	.11
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	2140	2144	2201	2206	2216	2231	2246	2246	2246	2246	2246	2246
YEAR	.14	.18	.23	.31	.42	.44	.45	.45	.46	.46	.48	.55
MONTH	08	08	08	08	08	08	08	08	08	08	08	08

LYNCHBURG, VIRGINIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.04	.05	.05	.06	.08	.11	.13	.17	.20	.25	.27
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1550	1555	1620	1630	1630	1715	1705	1650	1710	1730	1800	1830
FEB	.06	.08	.10	.11	.15	.17	.20	.23	.24	.25	.28	.30
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1634	1639	1644	1029	1039	1054	1109	1129	1149	1209	1138	1208
MAR	.30	.41	.42	.43	.45	.47	.48	.50	.53	.54	.55	.58
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0420	0425	0430	0435	0445	0500	0515	0535	0555	0615	0645	0715
APR	.27	.45	.60	.73	.78	.80	.80	.80	.80	.80	.80	.80
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	1509	1514	1519	1524	1534	1549	1604	1605	1605	1605	1605	1605
MAY	.19	.27	.34	.37	.39	.40	.40	.40	.40	.40	.40	.40
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1310	1315	1320	1320	1328	1330	1330	1330	1330	1330	1330	1330
JUN	.70	.69	.90	.91	.92	.92	.92	.92	.92	.92	.92	.92
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1605	1610	1615	1620	1625	1625	1625	1625	1625	1625	1625	1625
JUL	.12	.19	.23	.26	.35	.47	.50	.50	.52	.52	.53	.53
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	2308	2313	2316	2320	2310	2313	2335	2335	2335	2335	2335	2335
AUG	.43	.73	1.01	1.23	1.40	1.48	1.54	1.55	1.55	1.55	1.55	1.55
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1820	1823	1828	1833	1843	1853	1913	1933	1933	1933	1933	1933
SEP	.15	.20	.23	.26	.32	.35	.40	.41	.48	.49	.53	.58
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0955	1000	1005	1010	1015	1030	1045	1105	1040	1100	1030	1100
OCT	.10	.17	.17	.23	.34	.68	.86	.85	1.06	1.21	1.38	1.68
DATE	01	26	26	26	26	26	26	26	26	26	26	26
TIME	1343	0400	0630	0630	0650	0640	0650	0653	0655	0700	0658	0650
NOV	.10	.19	.21	.26	.35	.40	.46	.55	.70	.79	.97	1.03
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1205	1210	1215	1215	1225	1238	1255	1319	1338	1350	1343	1343
DEC	.07	.09	.10	.11	.16	.21	.24	.29	.30	.31	.32	.39
DATE	05	05	05	17	17	17	17	17	17	17	17	14
TIME	1445	1450	1455	2135	2127	2142	2152	2212	2232	2230	2300	1650
YEAR	.70	.89	1.01	1.23	1.40	1.48	1.54	1.55	1.55	1.55	1.55	1.68
MONTH	06	06	08	08	08	08	08	08	08	[illegible]	08	10

MAXIMUM SHORT DURATION PRECIPITATION

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

STAMPEDE PASS, WASHINGTON

[illegible]

BECKLEY, WEST VIRGINIA

[illegible]

HUNTINGTON, WEST VIRGINIA

[illegible]

WALLA WALLA, WASHINGTON

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.02	.02	.03	.03	.03	.04	.06	.06	.08	.09
DATE	02	02	02	02	02	02	02	02	02	02	02	02
TIME	2050	2050	2130	2130	2100	2100	2100	2120	2120	2120	2120	2130
FEB	.02	.03	.04	.05	.07	.09	.11	.14	.16	.17	.18	.20
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1142	1142	1142	1149	1119	1142	1156	1210	1224	1240	1314	1324
MAR	.02	.03	.04	.04	.06	.07	.08	.09	.10	.11	.13	.16
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1105	1109	1112	1112	1125	1125	1125	1129	1125	1125	1125	1125
APR	.02	.03	.04	.04	.08	.10	.10	.11	.11	.11	.11	.11
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	2153	0518	0523	0523	0516	0523	0523	0523	0523	0523	0523	0523
MAY	.07	.11	.13	.14	.14	.15	.15	.16	.16	.16	.16	.18
DATE	02	02	02	02	02	02	02	02	02	02	03	03
TIME	2126	2137	2136	2137	2139	2159	2159	2235	2235	2235	1157	1157
JUN	.02	.03	.04	.05	.07	.10	.12	.14	.15	.16	.24	.27
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1507	1513	1513	1513	1513	1513	1513	1513	1513	1513	1513	1513
JUL	.03	.04	.06	.07	.09	.12	.14	.18	.21	.23	.26	.29
DATE	17	17	17	17	17	17	17	17	17	17	18	18
TIME	2302	2302	2302	2302	2302	2302	2328	2328	2328	2328	0021	0035
AUG	.14	.18	.20	.22	.34	.38	.42	.44	.47	.49	.52	.57
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	0529	0531	0531	0544	0550	0550	0610	0620	0638	0638	0638	0638
SEP	.03	.04	.04	.05	.08	.08	.10	.12	.13	.15	.18	.20
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	1218	1218	1218	1247	1257	1304	1322	1322	1349	1420	1445	1458
OCT	.02	.02	.03	.03	.05	.06	.07	.08	.09	.11	.12	.12
DATE	29	29	06	06	06	06	24	24	24	24	24	24
TIME	2148	2149	1704	1704	1704	1704	2249	2322	2322	2322	2322	2322
NOV	.03	.04	.05	.06	.08	.09	.10	.14	.17	.18	.24	.27
DATE	13	13	13	13	13	26	26	26	26	13	13	13
TIME	0703	[illegible]	0711	0726	0736	0652	0701	0701	0714	0710	0710	0716
DEC	.06	[illegible]	[illegible]	[illegible]	[illegible]	.19	.27	.37	.45	.53	.56	.58
DATE	14	14	14	14	14	13	13	13	13	13	13	13
TIME	1252	1252	1252	1252	0733	0802	0804	0814	0816	0812	0834	0909
YEAR	.14	.18	.20	.22	.34	.38	.42	.44	.47	.53	.56	.58
MONTH	08	08	08	08	08	08	08	08	08	12	12	12

CHARLESTON, WEST VIRGINIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.03	.03	.03	.04	.06	.08	.09	.11	.11	.14	.15	.16
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0345	0345	0345	0345	0345	0345	0345	0346	0340	0355	0415	0455
FEB	.02	.03	.04	.05	.05	.07	.09	.12	.15	.18	.22	.27
DATE	24	24	24	24	24	19	19	19	19	19	19	19
TIME	0935	0940	0940	0940	0946	1815	1955	2005	2007	2015	2025	2030
MAR	.14	.25	.37	.45	.67	.78	.84	.93	1.03	1.14	1.17	1.17
DATE	12	12	12	12	12	12	12	13	13	13	13	13
TIME	[illegible]	2302	2305	2307	2320	2331	2348	0017	0028	0037	0037	0037
APR	.22	.37	.39	.42	.52	.63	.73	.87	.95	1.00	1.24	1.36
DATE	[illegible]	04	04	04	04	04	04	04	04	04	04	04
TIME	2340	1915	1915	1920	1915	1915	1915	1915	1948	2017	2030	2043
MAY	.12	.18	.18	.19	.20	.23	.24	.26	.26	.26	.28	.28
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0300	1155	1155	1155	1155	1155	1155	1230	1250	1300	1315	1315
JUN	.28	.49	.59	.67	.99	1.37	1.53	1.56	1.56	1.56	1.56	1.56
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	2122	2128	2130	2133	2145	2159	2208	2208	2208	2208	2208	2208
JUL	[illegible]	.71	.74	.83	.98	1.04	1.10	1.10	1.10	1.10	1.10	1.10
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1020	1021	1024	1024	1039	1054	1129	1129	1129	1129	1129	1129
AUG	.70	.75	.76	.79	[illegible]	.97	1.06	1.10	1.20	1.33	1.38	1.40
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0603	0608	0613	0618	0628	0643	0658	0718	0738	0828	0858	0928
SEP	.12	.23	.25	.26	.28	.28	.28	.28	.29	.31	.31	.32
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	1632	1637	1635	1642	1650	1650	1650	1650	1800	1700	1710	1800
OCT	.07	.37	.46	.56	.60	.64	.77	.94	1.10	1.22	1.42	1.52
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0942	0947	0952	0957	[illegible]	[illegible]	1032	1052	1114	1132	1143	1207
NOV	.07	.12	.14	[illegible]	.23	.28	.36	.43	.48	.50	.52	.53
DATE	30	17	17	30	17	30	30	30	30	30	30	30
TIME	1715	1102	1103	[illegible]	1115	1745	1745	1803	1830	1845	1900	1915
DEC	[illegible]	.14	.16	.18	.21	.26	.33	.42	.47	.48	.53	.53
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	[illegible]	0914	0915	0918	0930	0944	0957	1018	1043	1055	1127	1155
YEAR	.70	.75	.76	.83	.98	1.37	1.53	1.56	1.56	1.56	1.56	1.56
MONTH	08	08	08	07	07	06	06	06	06	06	06	06

PARKERSBURG, WEST VIRGINIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.03	.04	.04	.05	.08	.09	.10	.10	.10	.10
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	0613	0615	0615	0613	0615	0615	0620	0620	0620	0700	0700	0700
FEB	.06	.10	.11	.13	.14	.16	.17	.17	.17	.18	.19	.20
DATE	24	24	24	24	24	24	24	24	24	24	24	26
TIME	0850	0900	0905	0910	0915	0935	0945	1008	1030	1045	1115	1145
MAR	.12	.15	.19	.27	.35	.39	.47	.53	.65	.70	.72	.76
DATE	12	12	12	12	12	12	12	12	13	13	13	13
TIME	1038	1040	1050	1053	1105	1115	1137	1152	0017	0035	[illegible]	0036
APR	.10	.10	.11	.11	.13	.15	.18	.24	.29	.30	.30	.35
DATE	02	02	02	02	02	02	02	28	28	28	02	04
TIME	1830	1830	1830	1830	1845	1900	1915	1808	1630	1645	2015	1845
MAY	.13	.14	.14	.22	.22	.23	.26	.30	.32	.34	.36	.43
DATE	06	06	06	06	06	06	07	07	07	07	07	06
TIME	1408	1419	1420	1408	1408	1415	0510	0522	0538	0600	0630	1630
JUN	.58	.75	.85	.98	1.06	1.22	1.38	1.49	1.54	1.58	1.91	2.28
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1943	1948	1953	1958	2008	2023	2038	2058	2118	2138	2208	2238
JUL	.40	.62	.81	1.17	1.42	1.42	1.42	1.43	1.43	1.45	1.47	1.55
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1215	1215	1215	1222	1230	1245	1310	1320	1340	1400	1430	1500
AUG	.44	.69	.72	.73	.75	.77	.78	.78	.78	.78	.78	.78
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0615	0615	0615	0622	0630	0645	0700	0740	0800	0830	0830	0900
SEP	.28	.50	.57	.67	.82	.82	.82	.82	.82	.82	.82	.82
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	1450	1455	1505	1515	1520	1535	1550	1610	1630	1650	1720	1750
OCT	.02	.15	.16	.17	.17	.18	.21	.26	.30	.32	.42	.50
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0630	0640	0645	0650	0700	0710	0930	0930	0945	1000	1000	1000
NOV	.05	.08	.12	.16	.18	.20	.22	.26	.27	.30	.35	.39
DATE	17	17	17	17	17	17	10	10	10	10	10	10
TIME	0130	0135	0137	0145	0150	0200	0630	0645	0710	0730	0800	0830
DEC	.10	.20	.25	.27	.31	.34	.39	.44	.49	.53	.55	.56
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	0850	0855	0900	0905	0915	0930	0945	1005	1025	1045	1115	1145
YEAR	.58	.75	.85	1.17	1.42	1.42	1.42	1.43	1.54	1.58	1.91	2.28
MONTH	06	06	06	07	07	07	07	07	06	06	06	06

YAKIMA, WASHINGTON

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.02	.02	.02	.02	.02	.02	.02	.03	.03	.04
DATE	11	11	11	11	11	11	11	11	11	11	11	11
TIME	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820
FEB	.03	.06	.09	.11	.13	.16	.16	.17	.17	.18	.18	.21
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0708	0708	0715	0720	0755	0750	0750	0732	0732	0835	0835	0945
MAR	.02	.03	.03	.04	.05	.06	.07	.09	.10	.11	.12	.12
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0945	0945	0945	0945	0945	0945	1000	1020	1020	1020	1020	1020
APR	T	T	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
DATE			25	25	25	25	25	25	25	25	25	25
TIME			2115	2115	2115	2115	2115	2115	2115	2115	2115	2115
MAY	.04	.08	.11	.13	.16	.17	.19	.22	.24	.24	.24	.24
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1107	1109	1110	1107	1109	1112	1112	1120	1130	1145	1145	1145
JUN	.02	.03	.05	.06	.06	.07	.12	.14	.16	.19	.25	.28
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0820	0820	0650	0712	0815	0645	0650	0712	0712	0712	0815	0815
JUL	T	T	T	T	T	T	T	T	T	T	T	T
DATE												
TIME												
AUG	.23	.44	.45	.47	.51	.53	.53	.53	.53	.53	.53	.53
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1620	1620	1625	1630	1640	1655	1710	1730	1730	1730	1730	1730
SEP	.08	.10	.10	.10	.12	.12	.12	.13	.15	.16	.18	.20
DATE	21	21	21	21	21	21	25	25	25	25	25	21
TIME	1458	1455	1455	1455	1445	1530	0600	0600	0600	0610	0635	0730
OCT	.01	.02	.02	.03	.03	.03	.03	.03	.03	.04	.05	.05
DATE	06	06	06	06	06	06	06	06	06	28	28	28
TIME	1240	1240	1240	1240	1240	1240	1240	1240	1240	2145	2145	2145
NOV	.02	.03	.04	.05	.06	.06	.09	.11	.11	.12	.15	.16
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0150	1849	1845	1845	1845	1845	1845	1845	1845	1912	1845	1915
DEC	.04	.06	.08	.10	.16	.17	.21	.26	.30	.42	.49	.59
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1120	1129	1130	1140	1330	1345	1400	1420	1440	1500	1500	1500
YEAR	.23	.44	.45	.47	.51	.53	.53	.53	.53	.53	.53	.59
MONTH	08	08	08	08	08	08	08	08	08	08	08	12

ELKINS, WEST VIRGINIA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	.02	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11
DATE		10	10	10	10	10	10	10	10	10	10	10
TIME		0840	0845	0850	0858	0910	0915	0935	1000	1015	1050	1120
FEB	.08	.08	.08	.08	.08	.10	.11	.12	.15	.17	.19	.19
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	2045	2045	2045	2045	2045	0845	0900	0915	0943	1000	1030	1030
MAR	.30	.37	.39	.39	.39	.39	.39	.47	.55	.63	.75	.76
DATE	31	31	31	31	31	31	31	13	13	13	13	13
TIME	0231	0232	0232	0232	0232	0232	0232	0245	0300	0331	0348	0415
APR	.06	.10	.11	.12	.14	.17	.20	.23	.26	.28	.31	.33
DATE	24	24	23	23	23	04	04	04	04	04	04	04
TIME	1135	1140	1217	1232	1243	0324	0329	0330	0344	0400	0430	0500
MAY	.11	.20	.23	.27	.28	.30	.30	.30	.30	.30	.30	.30
DATE	07	23	26	23	23	23	23	23	23	23	23	23
TIME	0515	1514	1515	1517	1515	1540	1540	1540	1540	1540	1540	1540
JUN	.18	.27	.32	.33	.41	.51	.64	.71	.77	.79	.86	.86
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1045	1050	1050	1050	1050	1050	1050	1050	1058	1114	1145	1213
JUL	.30	.40	.46	.46	.46	.50	.59	.63	.70	.78	.78	.78
DATE	05	05	05	05	05	25	25	25	25	25	25	25
TIME	0610	0612	0614	0614	0614	1532	1538	1600	1630	1632	1632	1632
AUG	.32	.44	.45	.46	.47	.50	.55	.59	.63	.65	.75	.82
DATE	08	08	08	08	08	08	08	08	08	15	15	15
TIME	1630	1632	1637	1642	1652	1702	1717	1737	1757	0830	0915	0945
SEP	.10	.18	.18	.19	.23	.23	.25	.25	.25	.25	.25	.25
DATE	19	19	19	25	25	25	25	25	25	25	25	25
TIME	1711	1714	1714	1958	1958	2010	2028	2048	2108	2128	2158	2230
OCT	.07	.11	.12	.14	.21	.25	.32	.34	.38	.43	.52	.55
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1014	1020	1026	1031	1042	1052	1108	1122	1147	1205	1235	1235
NOV	.13	.17	.19	.23	.24	.25	.25	.25	.25	.28	.32	.38
DATE	07	07	07	07	07	07	07	07	07	30	30	30
TIME	1748	1753	1758	1803	1818	1833	1833	1833	1833	2135	2032	2052
DEC	.06	.08	.08	.09	.13	.17	.19	.21	.25	.30	.36	.40
DATE	05	14	14	14	14	14	14	14	14	14	14	14
TIME	1112	1235	1235	1243	1253	1308	1323	1343	1403	1422	1453	1521
YEAR	.32	.44	.46	.46	.47	.51	.64	.71	.77	.79	.86	.86
MONTH	08	08	07	08	08	06	06	06	06	06	06	06

GREEN BAY, WISCONSIN

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.02	.02	.03	.04	.04	.05	.06	.07	.08	.09	.10
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0320	0320	0320	0320	0320	0330	0330	0330	0330	0330	0345	0345
FEB	.06	.10	.12	.13	.15	.17	.19	.20	.22	.23	.26	.26
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1414	1420	1424	1430	1440	1445	1500	1515	1540	1555	1625	1700
MAR	.08	.15	.16	.16	.16	.18	.23	.28	.33	.37	.42	.52
DATE	30	30	30	30	30	28	28	28	28	28	28	28
TIME	1700	1710	1710	1710	1710	1520	1530	1550	1610	1610	1610	1610
APR	.15	.30	.33	.35	.37	.37	.37	.37	.44	.47	.50	.54
DATE	19	19	19	19	19	19	19	19	02	02	02	02
TIME	1333	1338	1348	1353	1400	1410	1410	1410	1420	1440	1510	1545
MAY	.20	.35	.38	.41	.42	.45	.52	.54	.57	.60	.79	.82
DATE	17	17	17	17	17	31	31	31	31	31	31	31
TIME	1651	1653	1658	1653	1658	0902	0914	0930	0930	0910	0900	0932
JUN	.25	.33	.34	.41	.55	.62	.67	.87	.87	.87	.87	.87
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1615	1619	1615	1615	1625	1620	1700	1700	1700	1700	1700	1700
JUL	.25	.39	.40	.41	.42	.42	.47	.50	.57	.59	.59	.59
DATE	04	04	04	04	04	04	03	03	03	03	03	03
TIME	1710	1711	1716	1721	1731	1740	0800	0800	0800	0810	0810	0810
AUG	.16	.26	.30	.33	.40	.51	.60	.75	.80	.85	.85	.93
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1440	1445	1450	1455	1510	1520	1540	1555	1620	1640	1710	1740
SEP	.07	.10	.15	.17	.19	.21	.24	.26	.27	.27	.28	.32
DATE	24	24	24	24	24	02	02	18	18	18	24	24
TIME	0912	0917	0922	0927	0932	1935	1540	1922	1925	1930	0505	0605
OCT	.03	.05	.06	.07	.09	.12	.16	.19	.22	.24	.26	.29
DATE	08	08	08	08	08	07	07	08	07	07	07	07
TIME	0240	0240	0240	0245	0245	2045	2100	0300	2100	2115	2145	2200
NOV	.07	.14	.19	.23	.29	.36	.42	.48	.54	.60	.67	.69
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	1038	1043	1045	1047	1052	1107	1122	1142	1202	1222	1252	1322
DEC	.02	.04	.05	.07	.10	.13	.20	.21	.24	.28	.32	.33
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0330	0350	0400	0405	0410	0440	0440	0445	0445	0500	0500	0515
YEAR	.25	.39	.40	.41	.65	.82	.87	.87	.87	.87	.87	.93
MONTH	07	07	07	07	06	06	06	06	06	06	06	08

MAXIMUM SHORT DURATION PRECIPITATION

MAXIMUM SHORT DURATION PRECIPITATION

Maximum precipitation in inches (5 to 180 minutes)

[illegible], ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	.02	[illegible]	.03	.04	[illegible]	.06	.06	.08	.09	.10
DATE	[illegible]	[illegible]	26	[illegible]	26	26	26	26	26	26	26	26
TIME	0735	0740	0745	0755	[illegible]	[illegible]	[illegible]	[illegible]	0930	1000	0900	1015
FEB	.03	.03	.03	.03	.04	.05	.08	.09	.12	.12	.14	.16
DATE	[illegible]	01	[illegible]	[illegible]	01	01	01	01	[illegible]	01	01	01
TIME	1645	1645	1645	1455	1550	1550	1555	1600	1620	1640	[illegible]	1715
MAR	.02	[illegible]	.02	[illegible]	.02	.03	.03	.04	.04	.05	.05	.06
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	[illegible]	1450	1450	1500	1500	1500	1515	1520	1540	1545	1545	1545
APR	.02	[illegible]	.02	.03	.03	.03	.04	.04	.05	.05	.05	.06
DATE	[illegible]	[illegible]	02	02	02	12	12	12	02	12	12	12
TIME	[illegible]	1400	1400	1400	1425	1750	1750	1750	1315	1750	1750	1750
MAY	.08	[illegible]	.10	[illegible]	.11	.15	.18	.21	.25	.28	.33	.34
DATE	27	[illegible]	27	[illegible]	30	30	30	30	30	30	30	30
TIME	1915	1920	1925	[illegible]	1910	1915	1930	1950	1950	2000	2030	2100
JUN	[illegible]	.19	.24	[illegible]	.37	.42	.46	.51	.59	.64	.71	.73
DATE	27	27	[illegible]	15	15	15	15	15	15	15	15	15
TIME	[illegible]	[illegible]	0645	0650	0700	0715	0730	0750	0810	0830	0900	0930
JUL	.14	.18	.24	[illegible]	[illegible]	.34	.37	.39	.40	[illegible]	.42	.43
DATE	31	31	31	31	31	15	15	15	15	15	15	15
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1430	1450	[illegible]	1530	1550	1620	1650
AUG	.06	[illegible]	[illegible]	.12	.13	[illegible]	.14	.14	.14	.14	.15	.15
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1255	[illegible]	[illegible]	[illegible]	[illegible]	1315	1315	1315	1315	1315	1315	1315
SEP	[illegible]	[illegible]	.08	[illegible]	.12	.16	.17	.20	.21	.22	.25	.30
DATE	[illegible]	[illegible]	25	25	25	25	25	25	25	25	25	25
TIME	[illegible]	0450	0450	0450	0450	0450	0450	0450	0450	0455	0430	0600
OCT	.02	[illegible]	.02	.03	.04	.05	.05	.06	.08	.10	[illegible]	.14
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	[illegible]	[illegible]	1945	1944	1944	1944	1944	1944	1944	1944	1944	1944
NOV	.02	[illegible]	.03	.03	.03	.03	.04	.04	.04	.05	.05	.07
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1645	[illegible]	1645	[illegible]	1645	[illegible]	2240	2240	2240	2240	2240	2240
DEC	.02	[illegible]	.04	[illegible]	.05	.05	.06	.06	.07	.08	.10	.11
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	[illegible]	[illegible]	1715	[illegible]	[illegible]	[illegible]	1715	1715	1715	1715	1345	1400
YEAR	[illegible]	.19	.24	[illegible]	.37	.42	.46	.51	.59	.64	.71	.73
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	06	06	06	06	06	06

JUNEAU, ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.04	.05	.07	.10	.13	.16	.19	.23	.26	.32
DATE	30	30	31	30	30	30	29	29	30	30	30	30
TIME	1435	1440	0022	1446	1456	1500	1204	1236	1552	1612	1634	1714
FEB	.02	.03	.04	.05	.06	.07	.11	.14	.14	.19	.22	.25
DATE	23	23	23	06	06	06	14	28	28	14	14	14
TIME	1105	1107	[illegible]	2250	2259	2300	0355	1930	1540	0400	0430	0450
MAR	.03	.04	.05	.08	.10	.12	.14	.17	.18	.19	.20	.22
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0545	0549	0544	0543	0545	0544	0544	0544	0605	0605	0650	0650
APR	.04	.05	.06	.06	.08	.10	.11	.14	.18	.22	.24	.28
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1516	1525	1529	1534	0437	0437	0437	0437	0437	0437	0437	0437
MAY	.04	.07	.08	.09	.09	.12	.16	.17	.17	.17	.17	.17
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0920	0928	0928	0933	0944	0955	1010	1030	1050	1107	1143	1217
JUN	.02	.04	.05	.06	.08	.12	.16	.18	.22	.25	.32	.38
DATE	[illegible]	22	22	02	02	02	02	02	02	02	02	02
TIME	[illegible]	1455	1459	0244	0303	0245	0201	0310	0307	0325	0255	0307
JUL	.06	.08	.10	.14	.18	.19	.20	.21	.23	.26	.28	.29
DATE	31	31	31	31	31	31	31	31	21	21	21	21
TIME	1645	1651	1651	1657	1705	1718	1732	1745	1159	1201	1230	1305
AUG	.04	.08	.09	.12	.14	.16	.19	.21	.28	.35	.35	.35
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0150	0155	0155	0155	0155	0155	0155	0155	0155	0200	0230	0300
SEP	.03	.06	.08	.10	.15	.22	.25	.27	.32	.34	.42	.49
DATE	29	29	29	29	29	29	29	29	29	29	21	21
TIME	1620	1625	1630	1635	1635	1650	1705	1725	1745	1805	2030	2100
OCT	.08	.14	.16	.20	.27	.29	.31	.33	.34	.36	.38	.39
DATE	10	22	22	22	22	22	22	22	22	22	22	22
TIME	[illegible]	0613	0616	0621	0632	0645	0655	0702	0720	0737	0737	0737
NOV	.02	.03	.03	.04	.06	.07	.10	.12	.15	.16	.18	.20
DATE	14	14	14	14	14	14	12	12	12	12	12	12
TIME	0752	0730	0733	0740	0750	0759	1559	1559	1620	1606	1615	1637
DEC	[illegible]	.02	.03	.04	.06	.08	.09	.11	.14	.16	.20	.24
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0527	[illegible]	0553	0555	0556	0605	0620	0640	0700	0720	0830	0906
YEAR	.08	.14	.16	.20	.27	.29	.31	.33	.34	.36	.42	.49
MONTH	10	10	10	10	10	10	10	10	10	10	09	09

KING SALMON, ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.01	.02	.03	.03	.05	.07	.07	.08	.08	.08	.08	.09
DATE	24	24	24	03	03	03	03	03	03	03	03	21
TIME	0210	0210	0210	0908	0908	0908	0908	0908	0908	0908	0908	1936
FEB	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
MAR	.02	.02	.03	.03	.05	.06	.09	.10	.12	.15	.20	.23
DATE	08	08	08	08	31	31	31	31	31	31	31	31
TIME	1912	1912	1912	1912	2100	2100	2100	2100	2100	2100	2100	2100
APR	.01	.02	.03	.03	.05	.07	.09	.10	.12	.13	.15	.18
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0003	0010	0010	0015	0005	0030	0030	0050	0110	0130	0200	0230
MAY	.10	.12	.13	.13	.15	.15	.15	.15	.15	.16	.20	.22
DATE	24	24	24	24	24	24	24	24	24	17	17	17
TIME	1710	1715	1720	1725	1730	1745	1800	1820	1840	1545	1615	1645
JUN	.04	.06	.07	.09	.12	.14	.16	.17	.19	.19	.19	.19
DATE	20	20	11	11	11	11	11	11	11	11	11	11
TIME	1320	1320	1559	1610	1615	1630	1635	1635	1655	1700	1700	1700
JUL	.02	.04	.05	.06	.08	.12	.15	.19	.23	.26	.31	.38
DATE	12	12	12	12	26	26	26	26	26	26	26	26
TIME	1220	1225	1230	1235	1345	1355	1355	1415	1435	1455	1430	1430
AUG	.04	.05	.06	.09	.10	.13	.17	.22	.24	.25	.30	.35
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345	2345
SEP	.04	.06	.10	.14	.16	.16	.16	.16	.18	.21	.21	.21
DATE	01	01	01	01	01	01	01	01	26	26	26	26
TIME	1420	1420	1420	1420	1420	1420	1420	1420	1718	1718	1718	1718
OCT	.08	.11	.19	.22	.26	.37	.46	.50	.55	.61	.64	.71
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0005	0005	0010	0015	0025	0040	0055	0115	0135	0155	0225	0255
NOV	.02	.03	.04	.05	.08	.12	.14	.16	.18	.19	.20	.20
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	0310	0315	0315	0320	0330	0330	0330	0930	0330	0330	0330	0330
DEC	.02	.03	.04	.04	.05	.08	.10	.11	.13	.14	.16	.18
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0525	0530	0535	0530	0515	0545	0600	0620	0640	0700	0730	0800
YEAR	.10	.12	.19	.22	.26	.37	.46	.50	.55	.61	.64	.71
MONTH	05	05	10	10	10	10	10	10	10	10	10	10

MC GRATH, ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	.02	.02	.02	.03	.03	.03	.03	.03	.04	.04
DATE	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10	24	24	24	[illegible]	10
TIME	1744	[illegible]	2252	2252	2252	2252	2252	0744	0810	0830	2252	2252
FEB	[illegible]	[illegible]	.03	.04	.05	.05	.08	[illegible]	.12	.13	.15	.17
DATE	[illegible]	02	02	02	02	02	02	02	02	02	02	02
TIME	[illegible]	[illegible]	0800	0800	[illegible]	[illegible]	0755	0800	0800	0800	0800	0800
MAR	.03	.03	.03	.04	.04	.06	.08	[illegible]	.11	.12	.15	.17
DATE	24	[illegible]	24	[illegible]	24	15	15	15	15	15	15	15
TIME	1922	1922	1922	1922	1925	0445	0445	0445	0540	0600	0615	0630
APR	.02	[illegible]	.03	.04	.05	.06	.08	[illegible]	.13	.16	.20	.22
DATE	[illegible]	02	02	02	02	02	02	02	02	02	02	02
TIME	[illegible]	[illegible]	0345	0345	0345	1038	0345	0345	0345	0345	0345	0345
MAY	.04	.05	.06	.08	.10	.10	.10	.10	.10	.10	.10	.10
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1332	1332	1332	1332	1340	1347	1347	1347	1347	1347	1347	1347
JUN	.07	.11	.13	.14	.15	.16	.16	.16	.16	.16	.16	.16
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	1936	[illegible]	1936	1944	2000	2005	2005	2005	2005	2005	2005	2005
JUL	[illegible]	[illegible]	.12	.14	.15	[illegible]	.18	.22	.24	.25	.25	.25
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	13	13	13	13	13
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1855	1915	1935	1955	1955	1955
AUG	[illegible]	.06	.07	.08	.09	.11	.13	.14	.16	.18	.20	.22
DATE	14	14	14	14	14	14	14	14	17	17	17	17
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0650	0700	0710	[illegible]	1435	1435	1435	1435
SEP	.03	.04	.05	.07	.09	.13	.17	.22	.26	.32	.39	.45
DATE	[illegible]	[illegible]	[illegible]	15	15	15	15	15	15	15	15	15
TIME	[illegible]	[illegible]	0815	[illegible]	0830	0845	0900	0920	0940	1000	1030	1100
OCT	.01	.02	.02	.03	.03	.05	.06	.07	.09	.10	.13	.14
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1653	[illegible]	1700	[illegible]	1700	1700	1700	1700	1700	1700	1700	1700
NOV	.02	[illegible]	.03	.03	.04	.05	.08	.09	.10	.10	.14	.18
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1052	[illegible]	1052	1052	1052	1052	1052	0700	0700	0700	0745	0745
DEC	.02	.03	.03	.04	.04	.05	.06	.07	.08	.09	.10	.11
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	2253	2253	2253	2253	2253	2253	2351	2351	2351	2351	2351	2351
YEAR	[illegible]	[illegible]	.13	[illegible]	.15	.17	.18	.22	.26	.32	.39	.45
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	[illegible]	09	09	09	09

ST. PAUL ISLAND, ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	T	T	T	T	.02	.02	.03	.03	.04	.05	.07	.08
DATE					05	05	05	05	05	05	05	05
TIME					1630	1645	1700	1720	1740	1800	1830	1900
FEB	T	.01	.02	.02	.03	.04	.06	.08	.10	.12	.15	.17
DATE		03	03	03	03	03	03	03	03	03	03	03
TIME		0710	0715	0720	0730	0745	0800	0820	0840	0900	0930	1000
MAR	T	T	T	.01	.02	.02	.02	.02	.02	.03	.04	.05
DATE				03	03	03	03	03	03	03	03	03
TIME				0920	0930	0945	1000	1020	1040	1100	1130	1200
APR	.02	.03	.04	.05	.07	.10	.13	.16	.21	.26	.32	.39
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	0005	0010	0015	0020	0030	0045	0100	0120	0140	0200	0230	0300
MAY	.01	.02	.03	.03	.04	.04	.06	.07	.10	.12	.16	.17
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	0005	0010	0015	0020	0030	0045	0100	0120	0140	0200	0230	0300
JUN	T	T	T	T	T	T	T	T	T	T	.01	.01
DATE											03	03
TIME											0230	0300
JUL	T	.01	.02	.02	.02	.03	.03	.04	.06	.06	.08	.09
DATE		23	23	23	23	23	23	23	23	23	23	23
TIME		1710	1715	1720	1730	1745	1800	1820	1840	1900	1930	2000
AUG	T	T	.01	.01	.02	.03	.03	.03	.04	.05	.07	.07
DATE			20	20	20	20	20	20	20	20	20	20
TIME			0315	0320	0330	0340	0400	0420	0440	0500	0530	0600
SEP	T	T	T	T	.02	.02	.04	.05	.07	.07	.08	.08
DATE					26	26	26	26	26	26	26	26
TIME					0230	0245	0300	0320	0340	0400	0430	0500
OCT	T	T	.01	.01	.01	.02	.02	.03	.03	.03	.04	.05
DATE			07	07	07	07	07	07	07	07	07	07
TIME			1615	1620	1630	1645	1700	1720	1740	1800	1830	1900
NOV	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
DEC	M	M	M	M	M	M	M	M	M	M	M	M
DATE												
TIME												
YEAR	.02	.03	.04	.05	.07	.10	.13	.16	.21	.26	.32	.39
MONTH	04	04	04	04	04	04	04	04	04	04	04	04

YAKUTAT, ALASKA	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.10	.14	.15	.16	.16	.26	.30	.38	.43	.53	.60	.70
DATE	17	17	17	17	14	05	05	05	05	05	05	05
TIME	0205	0209	0210	0215	0210	0100	0100	0110	1040	0200	1130	0300
FEB	.05	.07	.09	.12	.18	.24	.30	.36	.44	.52	.64	.74
DATE	21	21	21	02	02	02	02	02	18	18	18	18
TIME	1120	1120	1120	0020	0030	0045	0100	0120	0940	1000	1030	1100
MAR	.06	.08	.10	.14	.16	.17	.23	.28	.35	.40	.46	.50
DATE	08	08	10	10	10	10	29	29	29	29	29	29
TIME	0910	0910	0615	0620	0630	0645	1500	1520	1540	1600	1615	1600
APR	.07	.09	.11	.14	.20	.25	.30	.38	.50	.52	.64	.74
DATE	10	10	03	03	03	03	03	03	03	03	03	03
TIME	0310	0310	1420	1425	1450	1400	1400	1600	1400	1400	1400	1400
MAY	.09	.13	.19	.26	.32	.42	.54	.61	.62	.64	.66	.69
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1305	1310	1305	1600	1615	1630	1630	1630	1630	1630	1630	1815
JUN	.10	.13	.15	.20	.25	.28	.30	.32	.33	.34	.34	.34
DATE	27	27	27	27	22	22	22	22	22	22	22	22
TIME	1620	1620	1620	1620	1230	1245	1300	1300	1300	1300	1315	1340
JUL	.06	.09	.10	.11	.13	.18	.20	.25	.30	.34	.41	.52
DATE	21	21	21	02	02	03	03	03	03	[illegible]	03	03
TIME	1840	1849	1855	0920	0930	1745	1830	1850	1840	1900	1930	2000
AUG	.04	.07	.08	.10	.15	.21	.26	.36	.46	.52	.58	.62
DATE	27	10	10	10	10	10	10	10	10	10	10	10
TIME	1330	1107	1115	1120	1130	1130	1147	1200	1230	1245	1315	1345
SEP	.12	.18	.22	.26	.34	.44	.56	.69	.82	.91	.98	1.16
DATE	07	07	07	07	07	07	07	21	21	21	21	21
TIME	1335	1340	1340	1340	1340	1340	1340	1620	1645	1645	1645	1800
OCT	.08	.18	.20	.22	.26	.38	.48	.54	.64	.70	.78	.86
DATE	09	09	09	09	09	14	14	14	14	14	14	14
TIME	1115	1115	1115	1120	1130	1120	1120	1200	1200	1200	1200	1200
NOV	.04	.06	.07	.08	.11	.14	.18	.22	.23	.26	.28	.32
DATE	05	05	05	05	16	11	11	11	11	29	29	29
TIME	1405	1410	1415	1420	1345	0930	1000	1800	1025	2225	2245	2300
DEC	.04	.05	.08	.10	.15	.20	.28	.30	.32	.36	.39	.45
DATE	27	27	27	27	27	27	27	27	27	27	26	26
TIME	1105	1110	1115	1120	1130	1145	1200	1220	1240	1300	1720	1800
YEAR	.12	.18	.22	.26	.34	.44	.56	.69	.82	.91	.98	1.16
MONTH	09	09	09	09	09	09	09	09	09	09	09	09

[illegible], HAWAII	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.07	[illegible]	[illegible]	[illegible]	.20	.24	.28	.32	.36	.37	.39	.42
DATE	[illegible]	29	[illegible]	29	[illegible]	29	[illegible]	29	29	29	29	29
TIME	[illegible]	[illegible]	[illegible]	0652	0654	[illegible]	[illegible]	0720	0738	0740	0746	[illegible]
FEB	[illegible]	.59	[illegible]	1.04	1.48	1.78	1.94	2.23	2.47	2.72	3.01	3.33
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	[illegible]	0154	0155	[illegible]	0209	0209	0220	0241	0233	0237	[illegible]	0349
MAR	[illegible]	.33	.34	.34	.47	[illegible]	.74	.88	.98	1.09	1.10	1.14
DATE	02	02	02	02	13	13	13	13	13	13	13	13
TIME	[illegible]	[illegible]	1244	1244	0534	0549	0549	1500	1502	[illegible]	1536	0608
APR	[illegible]	[illegible]	.24	.31	.42	[illegible]	.62	.72	.80	.87	.95	1.05
DATE	[illegible]	29	28	28	28	28	28	28	28	28	28	28
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1720	[illegible]	1746	1757	1758	1824	1858	1910
MAY	[illegible]	[illegible]	.76	[illegible]	[illegible]	[illegible]	1.52	[illegible]	1.90	[illegible]	2.46	[illegible]
DATE	17	17	17	17	17	17	17	17	18	18	18	18
TIME	[illegible]	2220	[illegible]	[illegible]	2234	[illegible]	[illegible]	2322	[illegible]	0210	0209	[illegible]
JUN	[illegible]	[illegible]	.15	.15	[illegible]	.19	.23	[illegible]	.26	.27	.28	.28
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]	14	16	14	14
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0413	[illegible]	2359	0019	[illegible]	[illegible]	0059	0155
JUL	[illegible]	[illegible]	.23	.25	.26	.28	.29	.29	.29	.34	.42	.44
DATE	[illegible]	[illegible]	29	[illegible]	[illegible]	29	[illegible]	29	29	29	29	29
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0031	[illegible]	[illegible]	[illegible]	0110	0200	0210	0230
AUG	[illegible]	.26	.33	[illegible]	[illegible]	[illegible]	.88	[illegible]	1.24	1.30	1.32	1.34
DATE	11	11	11	11	[illegible]	[illegible]	11	11	11	11	11	11
TIME	2142	[illegible]	2143	2143	[illegible]	2205	2208	2206	2227	[illegible]	2252	2330
SEP	.16	.24	.30	.34	.36	.38	.39	.42	.49	.52	.56	.63
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	[illegible]	[illegible]	1233	1233	1240	[illegible]	1311	1240	1236	1245	1236	1245
OCT	[illegible]	.41	.52	[illegible]	.77	[illegible]	[illegible]	[illegible]	[illegible]	1.42	[illegible]	1.59
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	[illegible]	[illegible]	1641	1644	1654	[illegible]	1708	[illegible]	1740	1811	1830	[illegible]
NOV	[illegible]	[illegible]	.34	.46	.59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.69	.87
DATE	14	14	14	14	14	15	15	15	15	15	15	16
TIME	[illegible]	[illegible]	[illegible]	[illegible]	1719	[illegible]	[illegible]	0116	0116	[illegible]	[illegible]	0817
DEC	[illegible]	[illegible]	[illegible]	[illegible]	.14	[illegible]	.23	.31	.36	.39	.42	.62
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	18	18	18	18	18	18
TIME	[illegible]	2017	[illegible]	[illegible]	2200	2200	2228	2258	2300	2300	2300	2300
YEAR	.35	.67	[illegible]	1.04	1.48	1.78	1.94	2.23	2.47	2.72	3.01	3.33
MONTH	05	05	02	02	02	02	02	02	02	02	02	02

HONOLULU, HAWAII	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.06	.06	.06	.06	.11	.11	.11	.11	.11	.12	.12	.12
DATE	17	17	17	17	08	08	08	08	27	27	27	27
TIME	0316	0316	0316	0316	2221	2221	2221	2221	1933	1939	1939	1939
FEB	.12	.22	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24
DATE	01	01	01	01	01	01	01	01	01	01	01	01
TIME	0031	0034	0038	0038	0038	0038	0038	0038	0038	0038	0038	0038
MAR	.17	.24	.29	.33	.42	.43	.43	.43	.43	.43	.43	.43
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1257	1259	1305	1307	1312	1312	1312	1312	1312	1312	1312	1312
APR	.14	.24	.30	.38	.45	.55	.55	.55	.55	.55	.55	.57
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	0329	0329	0330	0337	0343	0356	0356	0356	0356	0356	0356	0356
MAY	.30	.47	.49	.53	.72	.91	1.03	1.12	1.17	1.19	1.22	1.41
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	0333	0337	0342	0347	0357	0412	0423	0439	0453	0500	0412	0435
JUN	.03	.03	.03	.04	.04	.04	.05	.05	.05	.06	.07	.07
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	2043	2043	2043	2055	2055	2055	2129	2129	2129	2225	2300	2300
JUL	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05	.05
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0722	0722	0722	0722	0722	0802	0802	0802	0802	0802	0802	0802
AUG	.02	.02	.02	.02	.02	.02	.02	.02	.03	.03	.03	.03
DATE	05	05	05	05	05	05	25	25	25	25	25	25
TIME	0806	0806	0806	0806	0806	0806	2115	2115	2204	2204	2204	2204
SEP	.02	.02	.02	.02	.02	.02	.03	.03	.03	.03	.03	.03
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	0121	0121	0121	0121	0121	0121	0210	0210	0210	0210	0210	0210
OCT	.02	.02	.02	.03	.03	.05	.05	.05	.06	.06	.06	.06
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1113	1113	1113	1130	1134	1150	1150	1150	1150	1150	1150	1150
NOV	.09	.19	.21	.25	.28	.31	.31	.31	.31	.31	.31	.32
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1004	1009	1005	1007	1009	1009	1009	1009	1009	1009	1009	1009
DEC	.09	.12	.14	.16	.17	.17	.20	.25	.25	.27	.31	.37
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1103	1107	1112	1117	1120	1120	1107	1120	1120	1250	1323	1307
YEAR	.30	.47	.49	.53	.72	.91	1.03	1.12	1.17	1.19	1.22	1.41
MONTH	05	05	05	05	05	05	05	05	05	05	05	05

KAHULUI, HAWAII	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.02	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0943	0943	0943	0943	0943	0943	0943	0943	0943	0943	0943	0943
FEB	.21	.22	.23	.23	.29	.31	.31	.32	.32	.33	.33	.33
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	2043	2049	2053	2053	2046	2057	2057	2132	2132	2124	2124	2124
MAR	.17	.30	.35	.45	.49	.52	.52	.52	.59	.59	.59	.60
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	1115	1115	1123	1128	1130	1137	1137	1137	1130	1130	1130	1150
APR	.15	.24	.35	.48	.64	.76	.91	.95	.99	1.11	1.22	1.33
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1936	1938	1935	1935	1941	1956	2007	2027	2047	2107	2137	2207
MAY	.02	.03	.04	.04	.05	.05	.05	.05	.05	.05	.07	.07
DATE	13	13	13	13	13	13	13	13	13	13	14	14
TIME	1314	1319	1317	1317	1323	1323	1323	1323	1323	1323	1632	1632
JUN	.03	.03	.04	.04	.05	.07	.07	.07	.07	.07	.07	.08
DATE	05	05	05	05	05	05	05	05	05	05	05	05
TIME	2133	2133	2143	2143	2139	2145	2145	2145	2145	2145	2145	2359
JUL	.04	.07	.10	.12	.14	.15	.16	.18	.19	.19	.20	.20
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	2214	2206	2212	2216	2221	2236	2238	2232	2232	2232	2244	2244
AUG	.03	.04	.06	.07	.08	.08	.08	.08	.08	.09	.11	.11
DATE	06	06	05	05	05	05	05	[illegible]	05	05	06	06
TIME	0946	0949	0245	0245	0255	0255	0255	0255	0255	0259	1208	1208
SEP	.01	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
DATE	17	02	02	02	02	02	02	02	02	02	02	02
TIME	0819	0250	0250	0250	0250	0250	0250	0250	0250	0250	0250	0250
OCT	.03	.03	.04	.04	.05	.07	.10	.11	.13	.14	.16	.17
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	1639	1644	1639	1644	1654	1709	2043	2103	2043	2054	2102	2109
NOV	.03	.04	.04	.04	.04	.04	.04	.07	.07	.07	.08	.09
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	0110	0117	0127	0128	0137	0152	0207	0120	0140	0200	0230	0300
DEC	.09	.17	.23	.28	.31	.33	.36	.36	.36	.38	.43	.53
DATE	31	31	31	31	31	31	31	31	31	31	31	31
TIME	1617	1622	1624	1625	1635	1650	1649	1709	1729	1805	1835	1905
YEAR	.21	.30	.35	.48	.64	.76	.91	.95	.99	1.11	1.22	1.33
MONTH	02	03	04	04	04	04	04	04	04	04	04	04

MAXIMUM SHORT DURATION PRECIPITATION

LIHUE, HAWAII

	Maximum precipitation in inches for [illegible] minutes											
	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.17	.20	.20	.20	.20	.20	.20	.21	.28	.31	.38	.43
DATE	11	11	11	11	11	11	11	25	25	25	25	25
TIME	1033	1033	1033	1033	1033	1033	1033	0208	0151	0211	0130	0208
FEB	.20	.37	.40	.46	.49	.49	.49	.49	.49	.50	.50	.50
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	1039	1040	1043	1047	1052	1052	1052	1052	1052	1052	1052	1052
MAR	.15	.15	.15	.16	.16	.16	.16	.16	.16	.17	.18	.18
DATE	29	29	30	30	30	30	30	30	30	30	28	28
TIME	2252	2257	0229	0230	0230	0231	0230	0230	0230	0732	0440	[illegible]
APR	.29	.38	.41	.46	.47	.52	.64	.69	.97	1.02	1.15	1.22
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	[illegible]	0449	0447	0452	0512	0545	0814	0822	0822	0822	0822	0822
MAY	.83	1.08	1.55	1.87	2.23	2.70	3.27	3.83	4.00	4.08	4.70	4.84
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	1929	1929	1929	1934	1944	1959	2014	2033	2054	2100	2044	2115
JUN	.13	.22	.27	.36	.42	.63	.71	.78	.85	.88	1.00	1.03
DATE	27	08	08	08	08	08	08	08	08	08	09	09
TIME	2335	2229	2230	2248	2238	2252	2259	2300	2321	2321	0026	0023
JUL	.09	.11	.12	.12	.12	.12	.12	.12	.12	.13	.13	.13
DATE	09	09	09	09	09	09	09	09	09	04	04	04
TIME	0327	0332	0335	0335	0335	0335	0335	0335	0335	0700	0700	0700
AUG	.11	.12	.12	.13	.14	.14	.15	.15	.16	.16	.16	.16
DATE	24	24	12	12	12	12	12	12	12	12	12	12
TIME	0558	0558	2015	2015	2015	2015	2047	2047	2047	2047	2047	2047
SEP	.17	.17	.17	.17	.17	.21	.30	.30	.31	.31	.31	.31
DATE	26	26	26	26	26	26	26	26	26	26	26	26
TIME	0515	0515	0515	0515	0515	0555	0610	0610	0610	0610	0610	0610
OCT	.11	.16	.18	.23	.27	.28	.28	.28	.28	.30	.30	.30
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	1429	1437	1437	1441	1451	1500	1500	1500	1500	1023	1023	1023
NOV	.13	.16	.19	.20	.20	.20	.20	.20	.20	.20	.20	.20
DATE	30	30	30	30	30	30	30	30	30	30	30	30
TIME	0014	[illegible]	0016	0017	0017	0017	0017	0017	0017	0017	0017	0017
DEC	.32	.38	.43	.47	[illegible]	.57	.64	.67	.67	.73	.82	.98
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1004	1001	0957	0958	0947	0950	0947	0933	0924	0853	0817	0748
YEAR	.83	1.08	1.55	1.87	2.23	2.70	3.27	3.83	4.00	4.08	4.70	4.84
MONTH	05	05	05	05	05	05	05	05	05	05	05	05

KOROR ISLAND, PACIFIC

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.26	.45	.52	.56	.73	.83	.88	.90	1.01	1.43	1.54	1.98
DATE	20	20	20	[illegible]	[illegible]	06	06	06	06	06	06	06
TIME	1848	[illegible]	1853	[illegible]	0322	0320	0329	0329	0412	[illegible]	[illegible]	0534
FEB	.28	.34	.38	.43	.55	.72	.76	.76	.76	1.13	1.21	1.21
DATE	15	15	22	[illegible]	[illegible]	22	22	22	22	22	22	22
TIME	1306	1330	0937	0942	[illegible]	0822	0835	0839	0835	0937	0944	0944
MAR	.22	.35	.44	.45	.48	.49	.55	.55	.58	.58	.59	.59
DATE	07	07	07	07	07	14	14	14	14	14	14	14
TIME	0549	0552	0554	0555	0559	0430	0838	0838	0913	0913	0937	0937
APR	.18	.37	.44	.46	.48	.50	.50	.50	.50	.50	.50	.50
DATE	16	16	16	16	[illegible]	07	07	07	07	07	07	07
TIME	0535	0536	0537	0540	0540	1101	1101	1101	1101	1101	1101	1101
MAY	.43	.59	.75	[illegible]	1.08	1.25	1.34	1.37	1.60	1.60	1.60	1.60
DATE	29	29	29	29	[illegible]	29	29	29	29	29	29	29
TIME	[illegible]	[illegible]	1313	[illegible]	1322	[illegible]	1356	1413	1432	1432	1432	1432
JUN	.27	.49	.59	.72	.95	1.10	1.17	1.39	1.49	1.90	2.10	2.35
DATE	27	25	15	15	15	15	15	27	27	27	27	27
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0759	0855	0911	0919
JUL	.42	.58	.72	.89	[illegible]	1.32	[illegible]	2.37	2.70	2.95	3.17	3.35
DATE	17	17	17	17	[illegible]	[illegible]	[illegible]	[illegible]	04	04	04	04
TIME	0815	[illegible]	1023	0424	[illegible]	[illegible]	[illegible]	[illegible]	1020	1024	1033	1122
AUG	.34	.96	1.07	[illegible]	1.18	1.58	1.90	2.38	2.62	2.63	2.67	2.68
DATE	28	28	28	28	05	05	05	05	05	05	05	05
TIME	1040	1031	1032	1033	0321	0321	0330	0332	0347	0400	0420	0420
SEP	.92	[illegible]	1.18	1.47	1.90	2.07	2.16	2.23	2.30	2.37	2.42	2.42
DATE	29	29	29	29	29	29	29	29	29	29	29	29
TIME	1043	[illegible]	1043	[illegible]	[illegible]	1712	[illegible]	1753	1813	1834	1840	1840
OCT	.30	.47	.63	[illegible]	[illegible]	1.14	1.24	1.34	1.38	1.39	1.39	1.39
DATE	04	04	04	04	[illegible]	10	10	10	10	10	10	10
TIME	2039	2039	2043	2048	1134	1134	1146	1207	1215	1215	1215	1215
NOV	.31	.51	.57	.58	[illegible]	1.07	1.12	1.13	1.13	1.13	1.14	1.15
DATE	24	24	24	24	05	05	05	05	05	05	05	05
TIME	0919	0924	0927	[illegible]	1249	1303	1309	1316	1316	1316	1316	1316
DEC	.32	.59	.66	.69	.98	1.14	1.15	1.16	1.32	1.40	1.46	1.47
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1601	1609	1608	1607	1617	1630	1630	1630	1617	1630	1630	1630
YEAR	.94	.96	1.18	1.47	1.90	2.07	2.16	2.37	2.70	2.95	3.17	3.35
MONTH	09	08	09	09	09	09	09	07	07	07	07	07

PONAPE ISLAND, PACIFIC

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.16	.18	.19	.22	.28	.30	.31	.38	.43	.49	.57	.64
DATE	15	15	15	15	15	15	15	15	15	15	15	15
TIME	0929	[illegible]	0935	0937	0950	[illegible]	1204	[illegible]	1234	1250	1320	1339
FEB	.09	[illegible]	.11	[illegible]	[illegible]	.11	[illegible]	.16	.21	.21	.21	.21
DATE	11	11	11	11	11	11	11	11	29	29	29	29
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1839	1855	1222	1258	1228	1258
MAR	.30	.39	.44	.58	.73	.88	1.09	1.27	1.54	1.91	2.22	2.29
DATE	07	07	28	28	28	28	28	28	28	28	28	28
TIME	1010	[illegible]	2145	2209	2142	[illegible]	2223	2244	2232	2244	2147	2158
APR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.49	2.56	2.58	2.59	[illegible]	3.09	3.28
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	1216	1227	1225	1232	1240	1240	1259	1308	1321	1350	1433	1503
MAY	.44	.60	[illegible]	[illegible]	1.43	1.52	1.53	1.60	1.60	1.68	1.72	1.76
DATE	22	22	22	22	22	22	22	02	02	07	07	07
TIME	1412	1414	1415	1417	1427	1441	1450	0708	0728	0711	0738	0849
JUN	.25	.33	.40	[illegible]	[illegible]	[illegible]	.70	.70	.83	1.02	[illegible]	1.23
DATE	27	[illegible]	29	29	29	29	29	29	29	29	29	29
TIME	[illegible]	[illegible]	0543	0542	0517	0544	0556	0556	0703	0700	0705	0805
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.03	[illegible]	2.24	2.49	2.52	2.79	2.94
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1547	1547	1613	[illegible]	[illegible]	[illegible]	[illegible]	1657	1619	1630	1700	1736
AUG	.43	.67	.78	[illegible]	1.22	1.32	1.34	1.35	1.35	1.39	1.44	1.61
DATE	27	27	27	27	27	27	27	27	27	09	09	07
TIME	0434	0434	0433	0431	0432	0432	0432	0432	0432	1301	1333	1402
SEP	.90	1.17	1.61	1.83	1.86	1.93	2.06	2.10	2.10	2.15	2.32	2.36
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	[illegible]	0321	[illegible]	[illegible]	0332	[illegible]	[illegible]	0618	0616	0604	0604	0626
OCT	.49	.84	1.35	1.91	2.46	3.01	3.34	3.51	3.56	3.56	3.68	3.75
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1115	1139	1136	1136	1140	1148	1300
NOV	.33	.39	.47	[illegible]	.79	1.03	1.22	1.49	1.71	1.80	1.85	1.87
DATE	[illegible]	[illegible]	[illegible]	13	13	13	15	15	15	15	15	15
TIME	0749	0753	0757	0858	[illegible]	1005	1005	1008	1011	1027	1037	1147
DEC	[illegible]	.39	[illegible]	.39	.43	.43	[illegible]	.67	.83	.94	1.08	1.10
DATE	18	18	18	18	18	18	18	18	[illegible]	01	02	02
TIME	0333	0339	0342	0344	0342	0350	0428	0432	2334	2332	0022	0052
YEAR	.90	1.17	1.61	[illegible]	2.46	3.01	3.34	3.51	3.56	3.56	3.68	3.75
MONTH	09	09	09	09	10	10	10	10	10	10	10	10

GUAM, PACIFIC

	Maximum precipitation in inches for [illegible] minutes											
	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.18	.24	.25	.25	.25	.25	.25	.25	.25	.28	.38	.41
DATE	12	12	12	12	12	12	12	12	12	30	30	30
TIME	0402	0408	0410	0410	0410	0410	0410	0410	0410	0310	0342	0342
FEB	.10	.10	.18	.24	.29	.30	.33	.33	.34	.35	.41	.53
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	0710	[illegible]	0717	0711	0716	0710	0716	0716	0716	0710	0710	0710
MAR	.10	.24	.24	.29	.33	.35	.39	.48	.49	.51	.52	.92
DATE	16	16	16	16	16	16	16	16	16	16	16	16
TIME	0203	0209	0205	0215	0225	0220	0225	0220	0252	0253	0337	0337
APR	.15	.22	.22	.22	.22	.22	.22	.22	.23	.23	.23	.25
DATE	23	23	23	23	23	23	23	23	21	23	23	21
TIME	0026	0026	0026	0026	0026	0020	0026	0026	0144	0144	0144	0258
MAY	.30	.56	.69	.73	1.04	1.27	1.33	1.40	1.53	1.56	1.61	1.90
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	1728	1731	1734	1730	1739	1748	1800	1840	1800	1820	1800	1737
JUN	.22	.29	.30	.31	.40	.40	.46	.49	.49	.49	.54	.55
DATE	24	24	24	24	24	24	24	24	24	24	15	15
TIME	1356	1401	1406	1407	1410	1407	1407	1407	1407	1407	0532	0534
JUL	.33	.69	.74	.88	1.09	1.44	1.49	1.55	1.74	1.81	1.82	1.92
DATE	21	21	21	21	21	21	21	21	21	21	21	21
TIME	0740	0751	0752	0756	0806	0819	0819	0833	0816	0830	0833	0834
AUG	.32	.54	.63	.70	.85	.90	.93	.96	1.32	1.43	1.47	1.48
DATE	18	18	18	18	18	18	18	18	18	18	18	18
TIME	0007	[illegible]	0014	0024	0030	0042	0056	0119	0026	0043	0113	0115
SEP	.44	.60	.83	.84	1.07	1.10	1.21	1.28	1.35	1.40	1.67	1.80
DATE	15	15	15	15	16	16	16	16	16	16	16	15
TIME	0727	0731	0730	0738	0818	0820	0836	0836	0836	0830	0850	1021
OCT	.58	.89	1.20	1.43	1.92	2.55	3.21	3.90	4.31	4.33	4.41	4.43
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1609	1614	1619	1624	1634	1649	1700	1711	1722	1741	1810	1831
NOV	.20	.27	.48	.59	.78	.84	1.11	1.48	1.89	2.72	2.77	3.23
DATE	23	23	08	08	08	08	08	08	08	08	08	08
TIME	0226	0229	2215	2230	2230	2245	2259	2319	2339	2359	2359	2359
DEC	.18	.24	.25	.25	.25	.25	.26	.26	.26	.28	.28	.28
DATE	04	05	05	05	05	05	05	05	05	05	05	05
TIME	0440	0448	0548	0548	0548	0548	0634	0634	0634	0733	0733	0733
YEAR	.58	.89	1.20	1.43	1.92	2.55	3.21	3.90	4.31	4.33	4.41	4.43
MONTH	10	10	10	10	10	10	10	10	10	10	10	10

MAJURO, MARSHALL IS., PACIFIC

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.17	.28	.33	.39	.48	.56	.57	.90	1.09	1.10	1.11	1.13
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1142	1140	1140	1140	[illegible]
FEB	.08	.09	.11	.12	.14	.17	.18	.18	.20	.20	.20	.22
DATE	14	14	14	14	14	14	14	14	14	14	14	10
TIME	1323	1310	1310	[illegible]	1310	[illegible]	1317	1317	1410	1410	1410	1337
MAR	.31	.47	.55	.60	.64	.64	.64	.64	.64	.64	.64	.64
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	1354	1357	[illegible]	1408	1416	1354	1416	1354	1416	1410	1416	1416
APR	.41	.71	.98	1.17	1.56	2.03	2.33	2.47	2.68	2.80	[illegible]	3.38
DATE	23	23	23	23	23	23	23	23	23	23	23	23
TIME	0718	0720	0721	0726	0736	0748	0751	0758	0758	0758	0758	0801
MAY	.52	.87	1.17	1.47	1.51	1.73	1.79	1.94	1.98	2.10	2.10	2.10
DATE	10	10	10	10	10	10	10	10	10	10	10	10
TIME	1924	1927	1933	1938	1948	2001	2016	2000	2220	2040	2110	2110
JUN	.24	.43	.56	.74	.95	1.03	1.13	1.27	1.29	1.34	1.39	1.40
DATE	28	28	28	28	28	28	28	28	28	28	28	28
TIME	0501	0504	0506	0504	0511	0520	0540	0551	0551	0551	0648	0648
JUL	.29	.48	.54	.67	.80	.92	1.10	1.29	1.32	1.36	1.38	[illegible]
DATE	11	11	10	11	11	11	10	10	10	10	10	10
TIME	0819	0811	2237	0717	0224	0241	2238	2249	2250	2312	2345	2359
AUG	.37	.60	.65	.86	1.14	1.65	2.10	2.22	2.26	2.29	2.38	2.42
DATE	08	18	19	19	19	19	19	19	19	19	19	19
TIME	2026	2027	1100	1105	1107	1100	1109	1120	1126	1200	1232	1240
SEP	.41	.78	.92	.97	.98	1.14	1.19	1.33	1.96	2.03	2.10	2.10
DATE	19	19	19	19	19	19	19	19	19	19	19	19
TIME	2216	2218	2218	2220	2230	1001	1623	1601	1601	1611	1610	1610
OCT	.40	.57	.62	.71	.90	1.07	1.34	1.70	1.96	2.03	2.15	2.24
DATE	25	25	25	25	25	25	25	25	25	25	25	25
TIME	1136	1140	1142	1144	1147	1159	1219	1237	1254	1309	1340	1400
NOV	.34	.50	.65	.71	.77	1.00	1.32	1.42	1.46	1.49	1.74	1.80
DATE	15	10	[illegible]	[illegible]	12	10	12	12	12	12	12	12
TIME	1055	0527	0522	0526	0531	0600	0622	0630	0656	0612	0633	0656
DEC	.42	.78	1.16	1.55	2.28	2.58	2.73	2.84	3.71	4.29	5.04	5.23
DATE	16	16	16	16	16	16	15	17	17	17	17	17
TIME	2306	2310	2315	2320	2318	2330	2348	0004	0026	0048	0119	0144
YEAR	.52	.87	1.17	1.55	2.28	2.58	2.73	2.84	3.71	4.29	5.04	5.23
MONTH	05	5	05	12	12	12	12	12	12	12	12	12

WAKE ISLAND, PACIFIC

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.05	.07	.09	[illegible]	.11	.12	.12	.12	.12	.12	.12	.12
DATE	30	24	24	24	24	24	24	24	24	24	24	24
TIME	1957	0129	0129	[illegible]	0134	0154	0154	0154	0154	0154	0154	0154
FEB	.07	.10	.12	.14	.16	.17	.17	.17	.17	.17	.17	.17
DATE	09	09	09	09	09	09	09	09	09	09	09	09
TIME	0458	0458	0458	0502	0502	0513	0513	0513	0513	0513	0513	0513
MAR	.27	.50	.73	1.00	1.31	1.57	1.74	1.79	1.80	1.81	1.85	1.86
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	0316	0320	0329	0330	0341	0343	0351	0401	0401	0401	0401	0434
APR	.10	.10	.11	.13	.15	.19	.24	.31	.38	.40	.40	[illegible]
DATE	14	14	02	02	14	14	14	14	14	14	14	14
TIME	1927	1927	0519	0519	1937	1952	2007	2007	2007	2008	2008	2008
MAY	.23	.27	.32	.36	.43	.45	.45	.45	.45	.45	.55	.55
DATE	17	17	17	17	14	14	14	14	14	14	14	14
TIME	1251	1251	1253	1243	1029	1031	1031	1031	1031	1031	1031	1031
JUN	.13	.24	.28	[illegible]	.40	.42	.43	.46	.48	.71	.72	.73
DATE	04	04	04	04	04	04	04	04	04	04	04	04
TIME	1305	1306	1415	1415	1420	1439	1437	1438	1439	1439	1439	1529
JUL	.26	.27	.28	.33	.36	.38	.39	.39	.39	.39	.39	.39
DATE	22	22	22	22	22	22	22	22	22	22	22	22
TIME	2232	2233	1904	1909	1911	1927	1927	2003	2003	2003	2003	2003
AUG	.33	.48	.62	.77	.98	1.25	1.35	1.40	1.42	[illegible]	1.56	[illegible]
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	0515	0520	1525	1530	1532	1547	1556	1608	1636	1550	1626	1656
SEP	.28	.44	.52	.53	.53	.53	.53	.53	.53	.53	.53	.53
DATE	08	08	08	08	08	08	08	08	08	08	08	08
TIME	1003	1010	1012	1019	1019	1019	1019	1019	1019	1019	1019	1019
OCT	.41	.72	.93	1.00	1.08	1.11	1.12	1.12	1.18	1.21	1.36	1.36
DATE	27	27	27	27	27	27	27	27	07	07	07	07
TIME	1747	1751	1754	1800	1809	1820	1827	1827	1808	1810	1810	1810
NOV	.20	.27	.35	.39	.55	.68	.76	.77	.77	.86	1.28	1.37
DATE	08	09	09	09	09	09	09	09	09	09	09	09
TIME	2205	2207	2011	2011	2006	2020	2014	2030	2030	2113	2203	2203
DEC	[illegible]	[illegible]	[illegible]	[illegible]	.20	.28	.30	.31	[illegible]	[illegible]	.35	.46
DATE	27	28	28	28	28	28	28	28	28	28	28	28
TIME	2042	0100	[illegible]	[illegible]	0120	0133	0136	0152	0153	0154	0255	0311
YEAR	.41	.72	.93	1.00	1.31	1.57	1.74	1.79	1.80	1.81	1.85	1.86
MONTH	10	10	10	10	03	03	03	03	03	03	03	03

[illegible] IS., [illegible]

	Maximum precipitation in inches for [illegible] minutes											
	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.20	.20	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1811	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	0528	[illegible]	[illegible]	[illegible]	0528	[illegible]	[illegible]	[illegible]
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	2132	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	[illegible]	[illegible]	[illegible]	29	[illegible]	[illegible]
TIME	1836	[illegible]	1847	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP	[illegible]	.31	.34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.64	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1324	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	1334	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	.78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	2322	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2352	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	.20	.39	.50	.54	.78	1.05	1.32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MONTH	[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

PAGO PAGO, AMERICAN SAMOA

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	[illegible]	.33	.42	.47	.53	.62	.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	1222	1224	1228	[illegible]	1235	1247	1249	1252	[illegible]	[illegible]	[illegible]	[illegible]
FEB	[illegible]	.34	.36	.39	[illegible]	.49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	25	25	[illegible]	22	22	22	22	22	[illegible]	22
TIME	0142	[illegible]	[illegible]	[illegible]	[illegible]	0210	[illegible]	0236	0246	[illegible]	[illegible]	[illegible]
MAR	.27	.50	.64	.75	.90	.99	1.09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	13	13	13	13	13	[illegible]	17	17	17	17	17	17
TIME	0917	[illegible]	0923	[illegible]	0937	[illegible]	[illegible]	1339	[illegible]	[illegible]	[illegible]	[illegible]
APR	.15	.35	.45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.28	1.34	1.40	1.46
DATE	09	09	09	09	[illegible]	09	[illegible]	[illegible]	[illegible]	09	29	[illegible]
TIME	0330	[illegible]	0342	[illegible]	0343	[illegible]	0357	0415	0430	[illegible]	[illegible]	[illegible]
MAY	.24	.50	.70	[illegible]	[illegible]	[illegible]	[illegible]	2.24	2.43	2.60	[illegible]	[illegible]
DATE	10	10	10	[illegible]	[illegible]	10	10	11	11	[illegible]	11	[illegible]
TIME	2345	2350	2355	2356	2359	2359	2357	[illegible]	[illegible]	[illegible]	0019	[illegible]
JUN	.27	.43	.50	[illegible]	1.16	[illegible]	1.45	[illegible]	2.44	[illegible]	[illegible]	[illegible]
DATE	[illegible]	06	06	06	[illegible]	06	06	06	06	06	[illegible]	[illegible]
TIME	1940	1944	1948	1949	1950	1950	1947	1949	1953	1956	[illegible]	[illegible]
JUL	.23	.39	.50	.62	.73	.82	.88	[illegible]	.92	.92	.92	[illegible]
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	2126	[illegible]	2133	[illegible]	2140	[illegible]	[illegible]	[illegible]	[illegible]	2233	2233	2233
AUG	.18	.29	.33	[illegible]	.40	[illegible]	.56	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	30	29	29	29	29	29	29	29	[illegible]	29	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1415	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP	.15	.29	.35	.39	[illegible]	.60	.60	.60	.60	.60	.60	.60
DATE	30	30	30	30	30	30	30	[illegible]	30	30	30	30
TIME	1929	[illegible]	1933	[illegible]	[illegible]	[illegible]	2010	2020	[illegible]	2020	2020	[illegible]
OCT	.19	.33	.42	.44	.53	.72	.89	[illegible]	[illegible]	[illegible]	1.26	[illegible]
DATE	17	10	[illegible]	[illegible]	17	[illegible]	17	[illegible]	[illegible]	17	17	[illegible]
TIME	0712	[illegible]	0643	0648	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	.36	.63	.89	1.07	1.36	1.83	[illegible]	[illegible]	2.38	[illegible]	[illegible]	[illegible]
DATE	22	22	22	22	[illegible]	22	22	22	[illegible]	[illegible]	[illegible]	22
TIME	1042	[illegible]	[illegible]	[illegible]	1028	[illegible]	1016	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	.10	.29	.36	[illegible]	[illegible]	[illegible]	[illegible]	.52	[illegible]	[illegible]	[illegible]	[illegible]
DATE	20	20	20	20	[illegible]	20	[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]
TIME	0531	[illegible]	2028	2028	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	.36	.63	.89	[illegible]	1.36	[illegible]	[illegible]	2.24	2.44	2.70	[illegible]	[illegible]
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TRUK, CAROLINE IS. PACIFIC

	5	10	15	20	30	45	60	80	100	120	150	180
JAN	.38	[illegible]	.59	.62	[illegible]	[illegible]	.69	[illegible]	.72	[illegible]	[illegible]	[illegible]
DATE	17	17	17	17	[illegible]	[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	0753	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB	.18	.20	.20	.22	.23	.25	.26	[illegible]	.38	.43	.47	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	12	12	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	2339	2334	2339	[illegible]	[illegible]	2330	2339	[illegible]	[illegible]	[illegible]
MAR	.28	.36	.42	[illegible]	.46	.57	.59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	09	[illegible]	11	[illegible]	[illegible]	09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	2140	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR	.36	.54	.71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	23	23	23	23	23	23	23	23	[illegible]	23	23	[illegible]
TIME	1759	1801	1807	1807	[illegible]	[illegible]	1842	[illegible]	1842	[illegible]	[illegible]	[illegible]
MAY	[illegible]	[illegible]	.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	1244	[illegible]	[illegible]	[illegible]	1314	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	2343	[illegible]	[illegible]	[illegible]	[illegible]	0023	[illegible]	[illegible]	[illegible]	[illegible]
AUG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.51	[illegible]	2.92	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1020	1021	1022	[illegible]	[illegible]	[illegible]
SEP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	27	27	27	[illegible]	27	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.26	[illegible]	[illegible]	[illegible]
DATE	[illegible]	[illegible]	30	[illegible]	[illegible]	30	[illegible]	30	[illegible]	30	[illegible]	[illegible]
TIME	0528	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DATE	[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
YEAR	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.51	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MONTH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MAXIMUM SHORT DURATION PRECIPITATION

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
YAP ISLAND PACIFIC												
JAN	[illegible]	.31	.39	[illegible]	.46	.56	.57	.57	.57	.57	.73	.78
DATE	20	20	20	20	21	21	21	21	21	21	21	21
TIME	2206	2211	2212	2212	2002	2004	2016	2016	2016	2016	0023	0023
FEB	.16	.17	.18	[illegible]	.18	.18	.18	.18	.20	.20	.24	.25
DATE	01	01	01	01	01	01	01	01	01	17	17	17
TIME	0355	0357	0403	0403	0403	0403	0403	0403	0403	0905	0910	0947
MAR	.33	.42	.44	.61	.62	.65	.65	.65	.65	.65	.65	.65
DATE	07	07	07	07	07	07	07	07	07	07	07	07
TIME	1419	1420	1421	[illegible]	1437	1441	1458	1458	1458	1458	1458	1458
APR	.12	.14	.17	[illegible]	.18	.18	.18	.18	.18	.20	.21	.21
DATE	14	14	14	14	14	14	14	14	14	14	14	14
TIME	2026	2037	2035	2042	2042	2042	2042	2042	2042	2212	2225	2225
MAY	* .53	.76	.92	1.03	1.41	1.58	1.74	1.81	2.00	2.24	2.31	2.33
DATE	13	13	13	13	13	13	13	13	13	13	13	13
TIME	0525	0527	0529	0533	0544	0549	0550	0600	0651	0652	0706	0706
JUN	* .53	.69	.74	.84	1.05	1.15	1.20	1.28	1.44	1.55	1.57	1.61
DATE	09	09	22	22	22	22	22	22	22	22	22	22
TIME	0942	0947	0140	0144	0153	0159	0159	0159	0159	0200	0230	0312
JUL	.29	.48	.60	[illegible]	.83	.98	1.10	1.22	1.31	1.43	1.61	1.85
DATE	17	17	17	17	17	17	17	17	24	24	24	24
TIME	1429	1431	1434	1437	1444	1457	1511	1922	0627	0641	0748	0761
AUG	.26	.38	.47	.57	.72	.81	.89	1.06	1.10	1.10	1.25	1.30
DATE	28	28	28	28	28	03	03	03	03	03	03	03
TIME	0605	1546	1549	1546	1556	0746	0800	0816	0835	0800	0832	0849
SEP	.48	.79	1.02	1.37	1.63	1.99	* 2.36	2.40	2.47	* 2.57	2.57	* 2.75
DATE	19	19	19	19	19	19	19	19	19	19	19	03
TIME	0301	0301	0302	0301	0304	0301	0305	0308	0352	0352	0352	0926
OCT	.41	.64	.87	.99	1.12	1.24	1.24	1.24	1.24	1.24	1.24	1.24
DATE	07	14	14	14	14	14	14	14	14	14	14	14
TIME	1340	1042	1042	1047	1057	1100	1106	1106	1106	1106	1106	1106
NOV	.47	.75	.99	[illegible]	1.48	1.85	2.06	2.10	2.25	2.34	2.35	2.41
DATE	06	06	06	06	06	06	06	06	06	06	06	05
TIME	1111	1121	1121	1125	1136	1144	1145	1208	1233	1240	1311	1344
DEC	.35	.66	.83	.93	1.17	1.56	1.71	1.82	1.85	1.87	1.94	2.06
DATE	[illegible]	12	12	12	12	12	12	12	12	12	12	12
TIME	1924	0058	0101	0107	1948	0132	0143	0145	0205	0225	0255	0325
YEAR	* .53	.76	1.02	1.37	1.63	1.99	* 2.36	2.40	2.47	* 2.57	2.57	* 2.75
MONTH	06	05	09	09	09	09	09	09	09	09	09	09

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
SAN JUAN, PUERTO RICO												
JAN	.22	.34	.41	.53	.69	.83	1.10	1.33	1.59	1.71	1.83	1.93
DATE	23	24	24	24	24	20	20	20	20	20	20	20
TIME	1858	0111	0116	0121	0124	2045	2101	2120	2140	2142	2207	2222
FEB	.09	.11	.13	.15	.16	.19	.20	.20	.20	.20	.20	.20
DATE	20	20	20	20	20	20	20	20	20	20	20	20
TIME	0232	0236	0243	0245	0255	0244	0300	0320	0340	0400	0430	0443
MAR	.15	.29	.37	.42	.46	.47	.48	.50	.50	.50	.50	.50
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0048	0053	0058	0103	0113	0128	0143	0203	0223	0243	0313	0343
APR	.06	.07	.09	.11	.11	.13	.17	.20	.23	.23	.24	.24
DATE	23	22	22	22	22	20	20	20	20	20	20	20
TIME	1017	2304	2309	2314	2314	2049	2104	2124	2136	2150	2224	2254
MAY	.11	.20	.27	.30	.36	.47	.55	.67	.91	1.01	1.08	1.10
DATE	27	26	23	23	23	23	23	23	23	23	23	23
TIME	0928	1531	0534	0539	0622	0535	0548	0515	0535	0539	0556	0620
JUN	.15	.21	.23	.27	.28	.32	.37	.39	.39	.39	.41	.41
DATE	27	27	27	27	27	27	27	27	27	27	27	27
TIME	0744	0748	0748	0748	0748	0748	0747	0748	0748	0748	0748	0748
JUL	.40	.57	.63	.68	.76	.77	.91	.95	.98	.98	.99	.99
DATE	17	17	17	17	17	17	17	17	17	17	17	17
TIME	1532	1533	1533	1533	1533	1540	1604	1613	1622	1622	1622	1622
AUG	.19	.28	.35	.40	.56	.67	.68	.68	.69	.69	.69	.69
DATE	03	03	03	03	03	03	03	03	03	03	03	03
TIME	1145	1145	1145	1149	1145	1202	1214	1232	1242	1242	1242	1242
SEP	.23	.43	.61	.71	.90	.90	.92	.96	1.05	1.08	1.10	1.11
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	0743	0747	0748	0752	0755	0809	0826	0846	0906	0926	0956	1026
OCT	.26	.47	.54	.61	.86	1.20	1.45	1.84	1.98	2.06	2.10	2.11
DATE	06	06	06	06	06	06	06	06	06	06	06	06
TIME	1210	1213	1213	1219	1238	1238	1239	1240	1240	1255	1316	1350
NOV	.29	.40	.46	.49	.54	.69	.90	1.01	1.30	1.39	1.44	1.66
DATE	24	24	24	24	24	24	24	24	24	24	24	24
TIME	0726	0729	0729	0734	0740	1654	1628	1707	1646	1652	1706	1643
DEC	.14	.19	.24	.26	.27	.29	.34	.41	.55	.55	.65	.80
DATE	12	12	12	12	12	12	12	12	12	12	12	12
TIME	1934	1428	1432	1434	1446	1455	1433	1526	1557	1557	1557	1544
YEAR	.40	.57	.63	.71	.90	1.20	1.45	1.84	1.98	2.06	2.10	2.11
MONTH	07	07	07	09	09	10	10	10	10	10	10	10

	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180

Data from airport unless otherwise specified
' Indicates urban sites
M No record
T Trace
+ And on earlier dates
* Maximum of record for this duration and station. Period of record is that compiled in Weather Bureau Technical Paper No. [illegible], revised plus [illegible] and [illegible] data. New records are denoted only for 5, 10, 15, 30, 60, 120, and 180 minutes. The continuity of record at stations that have changed location is described on page [illegible] of the above reference.

Annual extremes are based on available data, some periods of record may be missing

District of Columbia - See Virginia

SUNSHINE, AMOUNT AND PERCENT

YEAR 1977

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
ALABAMA																										
BIRMINGHAM	171	54	226	74	175	47	240	61	270	63	302	70	233	53	246	59	177	48	272	63	109	35	187	60	2555	57
MONTGOMERY	154	48	216	70	184	49	256	73	298	70	339	79	274	63	270	66	211	57	235	67	122	39	171	55	2759	62
ALASKA																										
ANCHORAGE	79	39	90	36	180	49	163	37	321	59	307	53	299	53	184	38	140	36	124	40	133	61	65	37	2083	46
JUNEAU	31	14	41	16	140	38	165	38	354	68	172	31	179	37	271	57	167	44	106	33	89	38	80	40	1816	40
NOME	42	25	64	27	230	63	299	66	185	32	347	55	371	61	256	50	147	38	122	41	100	52	39	30	2201	48
ARIZONA																										
FLAGSTAFF	210	67	262	86	314	85	332	65	353	81	305	70	264	60	245	59	283	76								
PHOENIX	260	82	289	94	346	93	361	49	395	92	390	91	347	79	355	86	306	82	307	87	273	87	195	53	3823	86
TUCSON	229	71	295	95	340	92	361	93	399	93	394	92	352	81	340	82	318	86	303	86	294	93	245	78	3870	87
YUMA	232	73	283	92	351	95	373	96	381	89	412	96	413	95	389	94	351	95	336	95	289	92	210	67	4020	90
ARKANSAS																										
FORT SMITH	179	57	225	74	264	71	259	66	277	64	312	72	288	65	252	60	200	54	187	54	108	35	153	50	2705	61
LITTLE ROCK	199	63	251	82	277	75	334	85	389	90	389	90	382	87	381	92	319	86	307	87	164	53				
CALIFORNIA																										
EUREKA U	139	53	115	38	193	52	262	66	285	64	229	51	317	69	145	34	156	42	113	33	86	29	64	22	2123	48
FRESNO	88	28	248	82	332	89	378	96	359	82	384	87	441	99	397	95	341	91	321	92	226	76	114	38	3628	82
LOS ANGELES U	212	67	260	85	321	86	302	77	333	77							350	94	333	95	303	97				
RED BLUFF	189	63	238	80	305	82	370	93	361	81	412	92	446	98	387	91	320	86	295	85	221	74	140	48	3684	83
SACRAMENTO	121	40	233	77	313	84	348	88	358	81	382	86	435	97	388	92	308	83	274	79	190	63	43	14	3394	76
SAN DIEGO	239	75	264	86	311	84	277	71	257	60	229	53	328	75	268	65	288	78	223	63	258	82	191	61	3133	70
COLORADO																										
DENVER	259	86	237	79	282	76	261	65	361	81	355	79	340	75	312	73	303	81	269	78	210	70	172	59	3360	75
GRAND JUNCTION	236	78	273	91	290	78	304	77	312	70	387	87	339	75	334	79	300	80	282	81	174	57	166	57	3396	76
PUEBLO	259	85	260	86	334	90	330	83	395	89	395	89	390	87	354	84	333	89	308	89	240	79	221	75	3818	86
CONNECTICUT																										
HARTFORD	205	69	159	54	217	58	290	72	342	76	268	59	350	76	279	65	183	49	180	52	106	36	138	49	2716	61
DIST/COLUMBIA																										
WASHINGTON NATIONAL	203	67	232	77	288	78	312	79	318	72	266	60	347	77	295	70	228	61	178	51	73	24	126	43	2865	64
FLORIDA																										
APPALACHICOLA U	180	55	232	74	222	60	333	86	332	78	353	84	338	79	274	67	274	74	275	78	203	63	180	56	3194	72
JACKSONVILLE	161	50	213	69	264	71	267	69	277	65	290	69	262	61	213	52	211	57	207	53	151	47	158	50	2675	60
KEY WEST	226	67	223	70	335	90	330	86	356	86	358	88	358	86	342	85	316	86	308	86	258	78	247	75	3656	82
LAKELAND U	164	50	183	58	209	56	295	77	266	63	252	61	235	55	196	48	201	54	184	52	162	50	153	47	2500	56
MIAMI	198	60	150	46	293	79	325	85	307	74	301	73	334	79	288	71	251	68	271	76	181	55	176	54	3074	69
TAMPA	153	47	169	54	220	59	287	74	258	61	257	62	232	55	199	49	204	55	177	50	164	51	192	60	2513	57
GEORGIA																										
ATLANTA	170	54	244	79	201	54	268	68	262	61	318	74	313	71	250	60	204	55	240	68	144	46	186	60	2797	63
MACON	164	51	254	82	242	65	324	83	348	81	366	85	295	68	282	68	211	57	217	62	134	43	183	59	3020	68
SAVANNAH	187	58	241	78	222	60	280	72	267	62	308	72	263	60	224	54	193	52	239	68	156	49	158	51	2737	62
HAWAII																										
HILO	234	68	181	56	120	32	110	29	156	38	228	57	153	37	180	46	152	41	125	34	180	54	164	48	1984	45
HONOLULU	208	61	220	69	247	66	250	66	267	66	265	66	298	72	297	74	268	73	269	75	240	72	202	60	3030	68
KAHULUI	275	80	257	80	263	71	225	59	319	78	354	[illegible]	317	77	290	73	276	75	242	67	271	81	206	61	3294	74
LIHUE	206	61	228	71	286	77	299	79	229	56	236	58	262	63	279	70	252	68	230	64	180	54	142	42	2829	64
IDAHO																										
BOISE	52	18	191	65	204	55	337	84	246	54	363	79					261	69	256	75	104	36	68	24		
POCATELLO	122	42	204	69	220	59	358	89	267	59	368	80	362	78	316	73	280	75	267	78	127	43	68	24	2959	66
ILLINOIS																										
CAIRO U	152	49	186	61	269	73	253	64	337	77	313	71	326	73	325	77	225	60	212	61	99	32	130	43	2827	64
CHICAGO MIDWAY	137	46	140	47	211	57	251	63	345	76	305	67	359	78	245	57	177	47	161	47	96	32	83	29	2511	56
MOLINE	190	64	184	62	171	46	174	44	247	55	227	50	303	66	163	38	146	39	147	43	91	31	65	23	2108	47
PEORIA	158	53	188	63	220	59	253	63	325	73	299	66	347	76	244	57	200	53	181	53	104	35	131	45	2650	59
SPRINGFIELD	162	54	192	64	216	58	240	60	278	62	231	52	347	76	215	51	205	55	204	59	129	43	134	46	2551	57
INDIANA																										
EVANSVILLE	173	56	194	64	295	80	286	72	375	85	350	79	323	72	360	85	251	67	193	55	94	31	134	45	3028	68
FORT WAYNE	190	64	168	56	227	61	304	76	384	85	336	74	394	84	315	74	255	68	204	59	79	26	106	37	2949	66
INDIANAPOLIS	156	52	171	57	208	56	249	63	338	76	242	54	354	78	220	52	246	66	196	57	91	30	114	39	2583	58
IOWA																										
DES MOINES	142	48	195	66	209	56	243	61	300	67	332	73	368	80	240	56	219	58	186	54	121	41	112	39	2666	60
SIOUX CITY	180	61	194	65	208	56	280	70	294	65	333	73	357	77	256	60	230	61	184	54	151	51	152	54	2817	63
KANSAS																										
CONCORDIA	217	72	235	78	272	73	271	68	341	77	379	85	378	83	320	75	283	76	258	75	194	65	219	75	3367	76
DODGE CITY	230	75	238	79	280	75	254	64	282	64	348	79	370	82	279	66	269	72	291	84	201	66	216	72	3258	73
TOPEKA	175	58	204	68	210	57	195	49	247	56	263	59	306	68	270	64	217	58	197	57	104	34	186	63	2573	58
WICHITA	186	61	217	72	269	72	241	61	297	67	311	70	355	79	275	65	230	62	230	66	152	50	203	68	2965	67
KENTUCKY																										
LOUISVILLE	157	52	167	55	230	62	273	56	302	68	250	56	278	62	207	49	185	50	169	49	89	29	114	39	2371	53
LOUISIANA																										
NEW ORLEANS	167	51	226	73	183	49	279	72	279	66	306	73	260	61	168	41	215	58	222	63	113	35	172	54	2589	58
SHREVEPORT	172	54	234	76	204	55	265	68	334	78	267	62	290	67	235	57	232	63	230	65	118	38	171	55	2751	62
MAINE																										
PORTLAND	216	74	153	52	212	57	277	69	347	76	200	43	352	75	262	61	189	50	188	55	120	41	154	55	2670	60
MARYLAND																										
BALTIMORE	179	59	204	68	243	66	248	67	287	65	245	55	311	69	250	59	201	54	189	54	83	27	140	48	2600	58
MASSACHUSETTS																										
BLUE HILL OBS R	192	65	161	54	197	53	266	66	315	70	225	49	313	68	247	58	189	50	166	49	101	34	134	47	2508	58
BOSTON	196	67	169	57	225	61	286	71	357	79	306	67	358	77	291	68	199	53	177	52	89	30	131	46	2784	62
MICHIGAN																										
ALPENA	140	49	122	42	208	56	246	61	387	84	361	77	319	68	256	59	128	34	162	48	70	25	53	19	2453	55
DETROIT METRO	145	49	137	46	217	59	200	50	364	80	303	66	359	78	311	72	196	52	204	59	65	22	97	34	2597	58
GRAND RAPIDS	95	33	107	36	175	47	246	61	343	76	279	61	343	74	234	54	148	40	139	41	55	19	52	19	2217	50
LANSING	126	43	138	47	205	55	275	68	384	85	328	71	352	76	241	56	134	36	163	47	73	25	66	23	2484	56
MARQUETTE U	170	60	148	51	191	52	249	61	383	82	328	69	342	72	295	67	137	36	170	50	62	22	66	25	2542	61
SAULT STE MARIE	132	47	98	34	212	57	265	65	385	83	278	59	256	54	223	51	106	28	146	43	51	18	47	18	2197	[illegible]

SUNSHINE, AMOUNT AND PERCENT

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Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
MINNESOTA																										
DULUTH	143	51	156	54	159	43	243	59	283	61	260	55	279	58	224	51	137	36	180	53	95	34	80	30	2240	50
MINNEAPOLIS	170	59	196	67	204	55	291	72	345	75	313	67	331	70	253	58	170	45	167	49	89	31	82	30	2610	58
MISSISSIPPI																										
JACKSON	168	53	233	75	202	54	288	74	253	59	363	85	279	64	256	62	216	58	213	60	116	37	174	56	2761	62
MISSOURI																										
COLUMBIA REGIONAL	141	46	211	70	232	63	238	60	258	58	256	58	347	77	226	53	158	42	194	56	111	37	129	44	2500	56
KANSAS CITY	178	59	221	74	282	76	332	84	378	85	381	85	317	70	223	53	164	44	222	64	172	57	158	54	3027	[illegible]
ST LOUIS	178	59	183	61	209	56	219	55	279	63	224	50	385	85	140	33	185	50	211	61	81	27	133	45	2427	55
SPRINGFIELD	150	49	186	61	277	75	259	66	287	65	278	63	305	68	258	61	207	56	211	61	100	33	163	54	2682	60
MONTANA																										
BILLINGS	98	35	185	64	256	69	330	81	319	69	330	70	334	70	300	69	245	65	216	64	122	43	91	33	2827	63
GREAT FALLS	83	30	158	55	169	46	285	70	244	52	301	63	325	68	271	61	226	60	191	57	125	45	78	29	2454	55
HAVRE	104	38	200	70	283	77	359	87	344	73	392	81	347	71	265	60	217	57	216	65	121	44	84	32	2932	66
HELENA	100	36	179	62	151	41	286	70	170	37	290	61	289	60	257	59	215	57	193	57	100	36	103	38	2333	52
MISSOULA	74	26	155	54	143	39	290	71	137	29	277	58	298	62	296	67	184	49	188	56	84	30	61	23	2185	49
NEBRASKA																										
LINCOLN	193	65	188	63	213	58	235	59	289	65	333	74	360	79	237	56	219	59	187	54	154	52	163	56	2771	62
NORTH PLATTE	191	64	210	70	238	64	249	62	283	63	313	69	319	70	259	61	250	67	239	69	209	70	200	70	2961	66
OMAHA (NORTH) WSFO	169	57	186	62	202	54	252	63					394	86	188	44	257	69	207	60	153	52	149	52		
VALENTINE	176	60	188	64	236	64	269	67	332	73	372	81	359	77	328	76	277	74	229	67	187	64	166	59	3119	70
NEVADA																										
ELY	272	73											388	86	308	73	341	91	309	89	232	77	210	72		
LAS VEGAS	266	86	271	89	321	87	356	90	316	72	348	80	382	86	360	86	340	91	319	91	259	84	194	64	3733	84
RENO	186	62	241	80	301	81	365	92	314	71	369	82	438	96	363	86	351	94	325	94	268	89	217	74	3737	84
WINNEMUCCA	[illegible]	68	208	70	229	62	294	74	265	59	364	81	422	92	332	78	308	82	284	83	178	60	126	44	3212	72
NEW HAMPSHIRE																										
CONCORD	210	72	174	59	191	52	277	69	348	76	241	52	329	71	245	57	191	51	165	48	81	28	125	45	2576	58
MT WASHINGTON OBS	91	31	75	25	92	25	140	34	244	53	79	17	150	31	93	21	69	18	127	36	83	28	72	25	1314	29
NEW JERSEY																										
ATLANTIC CITY	170	56	207	69	233	63	269	68	299	67	251	56	241	64	256	60	178	48	150	43	63	21	106	36	2472	56
TRENTON U	179	60	184	61	244	66	264	66	310	69	231	51	298	65	234	55	171	46	153	44	72	24	115	40	2454	55
NEW MEXICO																										
ALBUQUERQUE	202	64	242	79	261	70	280	71	325	75	315	72	357	81	287	69	270	73	297	85	244	79	199	65	3280	74
ROSWELL	231	73	266	86	334	90	360	92	391	91	407	95	385	88	321	77	339	91	308	87	279	89	244	79	3863	87
NEW YORK																										
ALBANY	149	51	119	40	162	44	219	54	318	70	168	37	271	59	225	52	138	37	150	44	90	31	92	33	2102	47
BINGHAMTON	137	47	100	34	190	51	235	59	321	71	215	47	263	57	197	46	115	31	142	42	55	19	89	31	2059	46
BUFFALO	70	24	79	27	189	51	232	58	347	76	287	62	289	62	262	61	140	37	171	50	65	22	71	25	2201	49
NEW YORK U	197	66	223	75	259	70	274	69	333	74	238	53														
ROCHESTER	78	27	85	29	232	63	215	54	334	74	286	62	315	68	239	55	132	35	142	42	40	14	68	24	2165	49
SYRACUSE	111	38	80	27	187	55	217	54	321	71	216	47	240	52	183	42	93	25	117	34	42	16	47	17	1852	42
NORTH CAROLINA																										
ASHEVILLE	188	60	237	77	204	55	236	60	256	59	290	67	278	63	191	46	152	41	194	55	114	37	134	44	2472	56
CAPE HATTERAS R	165	53	233	76	228	61	275	70					272	62			269	72	173	50	159	51	117	38		
CHARLOTTE	177	57	228	74	196	53	221	56	209	48	283	65	341	77	300	72	259	70	234	67	138	44	155	51	2739	62
GREENSBORO	236	66	243	80	241	65	278	71	283	65	268	61	335	75	225	54	207	56	174	50	119	39	181	60	2759	62
RALEIGH	190	58	233	77	254	68	265	67	238	54	261	60	296	67	253	61	225	61	182	52	119	38	174	57	2680	60
WILMINGTON	195	62	231	75	221	60	286	73	259	60	270	63	292	66	252	61	250	67	181	51	173	55	157	51	2766	62
NORTH DAKOTA																										
BISMARCK	135	48	122	42	229	62	303	74	311	67	316	67	333	70	244	56	180	48	187	55	150	53	121	45	2632	59
FARGO	[illegible]	65	161	56	228	62	254	62	282	60	293	62	321	67	236	54	133	35	208	62	109	39	78	29	2486	56
WILLISTON	121	44	135	47	236	64	309	75	317	67	295	61	357	74	246	56	154	41	214	64	144	52	113	43	2641	59
OHIO																										
CINCINNATI ABBE OB	141	43	119	40	165	44	212	53	323	73	384	86	360	80	161	38	292	78	210	61	90	30	112	38	2557	57
CLEVELAND			169	57	216	58	199	50	341	76	301	66	375	82	338	79	197	53	146	43	37	12	30	10		
COLUMBUS	117	39	155	52	188	51	217	54	296	66	231	51	239	52	207	49	187	50	178	52	52	17	68	23	2134	48
DAYTON U	149	49	154	51	231	62	243	61	356	80	303	67	328	72	229	54	218	58	165	48	60	20	98	34	2531	57
TOLEDO	145	49	141	48	207	56	219	55	354	79	266	59	320	70	210	49	164	44	177	52	45	15	64	22	2312	52
OKLAHOMA																										
OKLAHOMA CITY	197	63					238	61	253	55	347	80	357	81	278	66	262	70	227	65	158	51	190	62		
TULSA	166	60	220	72	257	69	249	63	223	51	312	71	349	79	267	64	225	60	207	59	120	39	169	56	2783	63
OREGON																										
PORTLAND	146	51	127	44	156	42	309	76	296	64	305	65	277	58	297	68	198	53	189	56	125	46	78	29	2503	56
PACIFIC AREA																										
GUAM TAGUAC R	224	72	241	74	270	72	287	77	266	67	244	63	229	58	208	53	119	32	131	36	164	48	196	56	2609	59
JOHNSTON	278	80	276	65	331	89	306	81	345	86	325	82	346	86	329	84	281	76	280	77	221	65	239	69	3555	80
KOROR R	219	60	156	47	225	60	209	57	219	57	195	52	121	31	111	29	181	50	209	56	214	61	200	55	2260	51
MAJURO	227	62	227	68	282	75	224	61	188	49	231	61	219	57	248	65	264	72	193	52	238	67	258	71	2798	63
PAGO PAGO	184	46	201	57	138	37	195	55	107	30			168	53	179	49	269	75					183	45		
PONAPE R	134	37	164	49	103	27	101	28	133	34	107	28	155	40	148	39	152	42	138	37	152	43	148	41	1635	37
TRUK MOEN ISLAND	116	32	164	49	162	43	156	42	166	43	88	23	156	40	196	51	97	27	34	9	146	41	174	48	1655	37
WAKE	244	71	242	75	261	70	305	81	332	82	319	80	346	85	267	67	282	77	205	56	232	69	197	58	3232	73
YAP R	250	72	253	76	329	88	327	88	256	66	161	42	90	23	84	22	121	33	99	27	179	51	119	33	2277	51
PENNSYLVANIA																										
HARRISBURG	212	71	214	72	286	77	296	74	345	77	322	72	349	76	284	67	120	32	155	45	63	21	139	48	2786	63
PHILADELPHIA	215	68	191	64	240	65	277	70	280	63	233	52	296	65	234	55	165	44	154	45	85	28	126	43	2485	56
PITTSBURGH	62	21	105	35	198	53	196	49	241	54	161	36	216	47	159	37	137	37	134	39	58	20	87	30	1754	39
PITTSBURGH	58	19	53	18	205	55	217	54	299	67	222	49	[illegible]	58	226	53	165	44	99	29	33	11	48	16	1888	42
SCRANTON	154	52	150	50	235	63	266	67	331	74	243	54	280	61	206	48	148	40	142	41	54	18	108	38	2315	52
RHODE ISLAND																										
PROVIDENCE	195	66	178	60	238	64	261	65	315	70	265	58	346	73	262	61	192	51	182	53	113	38	147	51	2684	50
SOUTH CAROLINA																										
CHARLESTON	174	55	246	80	276	74	350	90	357	83	354	83	374	86	315	76	311	84	250	71	197	63	212	68	3416	77
COLUMBIA	176	54	252	82	223	60	309	79	311	72	344	80	335	76	299	72	228	61	239	68	217	69	208	68	3137	71
GREENVILLE-SPRT BRG	213	68	248	81	247	66	270	69	283	65	276	64	274	67	231	56	248	67	251	72	137	44	174	57	2873	65

SUNSHINE, AMOUNT AND PERCENT

YEAR 1977

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
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SOUTH DAKOTA																										
HURON	199	69	205	70	229	62	311	77	368	80	355	77	359	76	311	72	215	57	194	57	141	49	99	36	2984	67
RAPID CITY	179	62	200	68	222	60	297	74	305	67	348	75	346	74	339	78	289	77	237	69	151	52	137	49	3049	68
TENNESSEE																										
CHATTANOOGA	146	47	221	72	211	57	272	57	249	57	288	66	263	60	227	54	180	48	179	51	108	35	128	42	2470	54
KNOXVILLE	156	50	221	73	291	79	323	82	352	81	340	78	346	78	336	80	244	66	233	67	189	61	217	71	3248	73
MEMPHIS	188	60	230	75	277	75	288	74	376	87	340	78	296	67	313	75	234	63	233	66	119	39	156	51	3049	69
NASHVILLE	166	53	207	68	246	66	250	63	325	74	277	63	280	63	275	66	219	59	203	58	129	42	136	45	2711	61
TEXAS																										
ABILENE	198	62	222	72	262	70	266	68	253	59	368	86	394	90	299	72	319	86	236	68	221	70	229	73	3267	74
AMARILLO	278	73	243	79	279	75	236	60	243	56	324	75	345	78	278	67	270	73	276	79	241	78	214	70	3176	71
AUSTIN	167	51	224	72	197	53	233	60	151	36	323	76	376	87	347	85	279	75	239	67	175	55	174	55	2884	65
BROWNSVILLE	89	27	175	55	190	51	238	62	228	55	291	71	363	86	324	80	302	82	235	66	180	55	150	46	2763	62
CORPUS CHRISTI	103	31	195	62	211	57	239	62	216	52	302	73	361	85	342	84	314	85	237	67	198	58	168	52	2879	65
EL PASO	227	71	278	90	338	91	336	86	391	91	373	88	331	76	369	90	350	94	271	77	281	89	240	77	3787	85
GALVESTON	141	43	214	69	124	33	225	58	271	64	318	76	290	68	195	48	238	64	177	50	141	44	162	51	2496	56
HOUSTON INTERCON	158	49	203	65	160	43	243	68	305	72	308	73	334	78	232	57	255	59	239	67	134	42	173	54	2764	62
LUBBOCK	232	73	225	73	298	80	292	75	308	71	360	84	412	92	339	82	321	86	247	70	253	81	234	76	3510	79
PORT ARTHUR	155	48	206	66	163	44	262	68	309	73	318	76	323	75	237	58	277	75	240	68	128	40	152	48	2769	62
SAN ANTONIO	148	45	220	71	255	68	212	55	128	30	242	57	311	73	277	68	241	65	194	55	159	50	150	47	2536	57
UTAH																										
MILFORD	204	67	260	86			324	82	271	61	353	79	351	78	311	74	289	78	289	83	218	72	175	59		
SALT LAKE CITY	204	68	230	77	232	63	333	83	252	56	408	90	381	83	326	77	304	81	270	78	139	47	79	27	3157	71
VERMONT																										
BURLINGTON	105	36	90	31	138	37	206	51	327	71	208	45	289	61	208	48	92	25	149	44	79	27	89	32	1979	44
VIRGINIA																										
LYNCHBURG	220	71	247	81	255	69	275	70	312	71	277	63	356	80	280	67	241	65	181	52	96	31	159	53	2898	65
NORFOLK							314	80	299	68	240	55			283	67	259	70	186	53	111	36	114	38		
RICHMOND	180	59	231	76	248	67	276	70	272	62	308	70	336	75	324	77	286	77	233	67	143	47	166	55	3003	67
WASHINGTON																										
QUILLAYUTE	120	44	97	34	132	36	222	54	103	22	182	38	206	43	163	37	167	44	149	44	51	18	53	20	1645	37
SEATTLE-TACOMA	36	13							182	39	284	59	302	63	287	65	167	44	102	30	40	14	56	21		
SPOKANE	58	21	103	36	147	40	271	66	221	47	335	70	294	61	353	80	183	48	187	56	83	30	60	23	2296	51
WALLA WALLA U	21	8	101	35	172	33	288	71	227	49	370	78	342	76	321	73	197	52	214	63	82	29	29	11	2332	52
WEST INDIES																										
SAN JUAN P.R.	269	78	269	83	278	74	244	65	232	57	294	74	292	72	248	63	215	58	186	51	134	40	240	70	2900	65
WEST VIRGINIA																										
PARKERSBURG U	100	33	122	41	237	64	239	60	326	73	228	51	284	63	226	53	194	52	175	51	74	25	128	44	2334	52
WISCONSIN																										
GREEN BAY	182	63	179	61	192	52	267	66	344	75	314	68	346	74	316	73	183	49	192	56	96	33	106	39	2716	61
MADISON	163	56	159	54	172	46	253	63	362	80	322	70	366	79	215	50	135	36	157	46	100	34	95	34	2498	56
MILWAUKEE	165	56	153	52	182	49	263	65	342	75	304	66	363	78	246	57	152	40	154	45	112	38	107	38	2542	57
WYOMING																										
CHEYENNE	182	61	219	74	285	77	194	49	269	60	256	57	265	58	230	54	241	64	236	68	156	53	147	51	2680	60
LANDER	248	85	231	78	218	59	303	75	336	74	357	78	346	74	303	70	300	80	264	77	176	60	188	67	3269	73
SHERIDAN	170	42	182	62	184	50	292	72	289	63	302	65	321	68	268	62	242	64	218	64	119	41	139	50	2673	41

Data from airport unless otherwise specified.
"U" indicates Urban, "R" indicates Rural, sites.

ANNUAL CLIMATOLOGICAL DATA
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State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow†										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 a.m. E S T	7:00 a.m. E S T	1:00 p.m. E S T	7:00 p.m. E S T	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow† 25.4mm. or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
	°C	C	C	C		C		Base 18.3°C	Base 18.3°C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
ALABAMA																																					
BIRMINGHAM	22.8	11.2	17.0	40.6	JUL 7	-16.1	JAN 19+	1683	1262	1525	128	SEP 6-7	36	25	JAN 18	77	81	56	58	3.0	0.2	25	21.9	[illegible]	APR 4	5.9	102	113	150	114	1	76	9	77	7	63	0
HUNTSVILLE	21.9	9.9	15.9	38.3	JUL 8	-18.3	JAN 17	1930	1108	1621	94	MAR 11-12	23	13	JAN 18	78	82	55	60	3.8	0.3	20	16.5	23	JUN 17	5.6	122	98	145	117	0	71	20	71	11	68	1
MOBILE	24.8	14.3	19.6	36.1	JUL 2+	-11.1	JAN 19	1068	1581	1640	122	NOV 21-22	48	36	JAN 30-31	80	84	55	65	3.6	0.4	14	14.3	09	MAY 22	5.9	97	121	147	138	1	83	34	86	1	34	0
MONTGOMERY	24.4	12.6	18.6	38.9	JUL 7	-13.9	JAN 19	1330	1461	1130	62	JUL 28-29	152	76	JAN 30-31+	76	82	53	59	2.8	0.3	26	19.2	SW	MAR 4	5.5	121	107	137	116	3	65	23	103	3	55	0
ALASKA																																		R			
ANCHORAGE	7.6	.2	3.9	27.8	AUG 21	-26.7	DEC 9	5219	6	394	22	SEP 28-29	1755	203	APR 1	72	63	70	75	3.2	0.1	29	13.0	16	JAN 4	7.9	43	65	257	112	23	1	34	34	94	173	18
ANNETTE	10.9	4.7	7.8	31.1	AUG 18	-16.1	DEC 9	3820	33	2323	90	OCT 10-11	841	236	DEC 10-11	79	73		85				21.5	14	MAR 10+	8.0	42	69	254	220	6			19	14	62	0
BARROW	-9.3	-14.5	-11.9	20.6	AUG 4	-41.1	FEB 2	10994	0	83	9	AUG 13-19	508	46	OCT 27-28	84	81	83	86	5.7	3.0	6	20.6	20	DEC 30		65	47	187	96	2	0	68	0	239	294	167
BARTER ISLAND	-8.9	-19.0	-11.9	15.6	JUL 28	-44.4	FEB 3	11021	0	85	6	NOV 31-1 +	805	142	OCT 31	82	80		83				21.5	27	DEC 27+		51	68	191	79	7			0	235	308	159
BETHEL	2.7	-4.9	-1.1	28.9	AUG 21	-37.8	MAR 5	7050	4	390	17	SEP 14-15	1623	122	DEC 18-19	78	69	75	81	5.9	0.8	3	25.9	17	DEC 29	7.5	54	71	240	163	22	3	46	19	152	234	62
BETTLES	.3	-9.3	-4.5	32.2	JUL 31+	-45.6	DEC 16+	8332	50	356	17	SEP 27-28+	2172	264	DEC 20	75	66	71	79	3.1	1.3	36								119	34	4	11	56	190	230	128
BIG DELTA	3.6	-5.4	-.9	31.1	AUG 4+	-42.2	DEC 4	7031	36	299	19	JUN 18	1179	152	OCT 12-13+	64	53	62												86	18			48	160	214	73
COLD BAY	7.1	1.5	4.3	20.6	JUL 16	-12.8	DEC 7	5068	0	1053	53	NOV 16	2012	112	MAR 30-31	83	76	82	84	7.5	0.7	22	30.0	17	MAR 14	8.8	12	46	307	258	32	0	13	0	34	149	0
FAIRBANKS	2.6	-7.3	-2.3	32.2	JUL 30	-46.7	DEC 13	7553	54	330	25	SEP 24-25	1925	320	FEB 1-2	71	59	65	73	2.5	0.5	35	12.5	24	JUN 22	7.1	53	104	209	115	23	7	16	62	168	215	113
GULKANA	4.0	-6.9	-1.4	30.0	AUG 21	-43.9	DEC 9	7177	3	242	24	MAY 6-7	909	152	APR 1															91	18			41	133	236	84
HOMER	7.3	.0	3.7	23.9	JUL 11	-20.6	DEC 13	5300	0	576	27	MAY 17-18	815	132	MAR 31	80	73	80	86	3.6	0.3	8	13.4	25	APR 12+	7.4	59	63	243	145	11	0	10	4	62	173	8
JUNEAU	9.3	2.6	5.9	28.3	AUG 20	-21.7	DEC 8	4485	1	1198	38	SEP 21-22	1567	277	NOV 10-11	84	75	85	90	3.8	2.4	11	16.1	13	FEB 19	8.2	47	39	279	230	20	[illegible]	22	27	40	94	4
KING SALMON	5.4	-2.7	1.4	26.7	AUG 21	-32.2	NOV 15	6146	0	529	45	OCT 8-9	1339	152	MAR 31	79	68	75	82	4.5	0.6	11	16.5	15	MAR 15	8.0	32	68	265	160	19	0	44	5	70	198	45
KODIAK	7.9	1.4	4.7	25.0	JUL 18	-14.4	MAR 5	4930	0	2052	103	FEB 20-21	1245	175	FEB 21-22	79	74	80	83	5.1	0.7	36	20.5	31	MAR 11	7.3	69	69	227	209	14	0	18	8	25	144	0
KOTZEBUE	-1.6	-8.7	-5.2	28.9	JUL 12	-39.4	MAR 24	8537	11	218	40	SEP 5-6	843	74	JAN 4	80	77	79	82	6.2	1.5	7	23.7	17	DEC 29	5.9	112	84	169	98	12	2	20	19	203	241	11[illegible]
MC GRATH	2.2	-8.3	-3.1	31.7	AUG 21+	-46.7	DEC 14+	7784	20	396	30	SEP 19-20	2271	262	APR 1-2	75	61	68	79	2.5	0.3	32	13.0	19	DEC 29	7.3	51	86	223	143	22	6	20	63	169	227	111
NOME	1.6	-6.9	-2.6	30.0	JUL 31	-41.1	MAR 5	7611	12	346	27	SEP 5-6	1773	203	DEC 27-28	72	69	70	74	4.8	1.6	7	23.2	16	DEC 29	6.2	119	57	189	125	23	0	24	19	172	245	84
ST. PAUL ISLAND	4.4	.1	2.3	17.2	AUG 27+	-16.7	APR 11	5813	0	249	11	NOV 4	1158	117	NOV 4	85	80		85				30.4	18	FEB 25+	8.7	14	56	295	177	13	0	60	0	74	132	0
TALKEETNA	6.6	-3.7	1.4	29.4	AUG 21	-30.6	MAR 7	6124	4	717	35	APR 24-25	2667	254	DEC 26-27	77		75					13.0	03	DEC 14					138	41	6	1	50	116	224	61
UNALAKLEET	1.7	-7.1	-2.7	29.4	AUG 22	-40.0	DEC 15	7636	12	316	26	SEP 25-26	767	155	NOV 5-6	77	71						24.1	09	JAN 14	7.2	79	48	238	131	8			24	172	248	85
VALDEZ	6.9	.7	3.8	27.2	AUG 20	-17.8	DEC 9	5251	0	1595			6772			81	73		85				19.7	35	DEC 3					192	53			10	69	165	1
YAKUTAT	8.3	1.3	4.8	25.0	AUG 20	-21.7	DEC 10+	4879	0	3675	140	SEP 21-22	5022	295	MAR 29-30	85	78	88	91	3.0	1.4	9	17.4	13	OCT 14	8.0	45	53	267	244	56	3	35	4	36	140	6
ARIZONA																																					
FLAGSTAFF	17.7	-.4	8.7	33.3	AUG 1	-22.2	JAN 10	3570	106	477	36	AUG 9	1755	437	APR 1-2	36	37	62	70	3.1	1.1	22				4.8	148	109	108	78	13	56	17	3	8	21[illegible]	8
PHOENIX	30.9	16.7	23.8	45.6	JUN 29	-.6	JAN 11+	467	2512	80	13	SEP 27	0	0		29	20	34	45	3.5	0.5	15	28.6	SW	JUN 8	3.5	210	82	73	28	0	25	1	170	0	4	0
TUCSON	27.8	13.7	20.8	42.2	JUN 29	-2.2	FEB 27	765	1724	258	44	OCT 6-7	0	0		32	25	42	51	3.5	1.2	18	19.2	NE	JUL 31	3.7	207	74	84	55	0	42	2	127	0	3	0
WINSLOW	21.8	4.1	12.9	39.4	AUG 3	-21.7	JAN 10	2620	716	233	29	SEP 27	457	203	FEB 24-25	38	31	54	67	4.2	1.8	20	19.3	22	MAR 9	4.7	149	119	97	51	6	47	6	75	12	144	5
YUMA	30.3	16.1	23.4	45.0	JUN 29	1.7	JAN 10	412	2325	113	69	AUG 14-15	0	0		31	21	40	51	3.5	0.6	25	25.0	S	AUG 14	2.8	245	70	59	19	0	5	5	166	0	0	0
ARKANSAS																																					
FORT SMITH	22.7	9.7	16.2	38.3	JUL 25	-23.3	JAN 11	1961	1257	820	90	MAR 26-27	330	188	JAN 8-9	76	82	54	54	3.3	0.2	9	17.9	NW	FEB 23	5.7	108	124	133	86	3	61	12	87	9	88	2
LITTLE ROCK	22.7	11.2	16.9	38.3	JUL 6+	-15.6	JAN 19	1707	1259	1211	56	NOV 16	97	51	JAN 18	70	82	55	59	3.2	0.5	21	15.6	SW	MAR 28	5.7	107	122	136	91	2	57	14	81	9	56	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA

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State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow †: Total	Greatest in 24 hours	Date (s)	Relative humidity: 100am EST	700am EST	100pm EST	700pm EST	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm. or more	Thunderstorms	Heavy fog	Max temp: 32.2 C and above	0 C and below	Min. temp: 0 C and below	-17.8 C and below
	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
CALIFORNIA																																					
BAKERSFIELD	26.3	14.4	19.3	43.9	JUL 25	.0	JAN 10	889	1523	140	29	DEC 27-28	0	0		50	36	52	63	3.2	1.1	33	20.6	13	DEC 28	4.2	164	92	97	30	0	4	26	106	0	1	0
BISHOP	23.7	4.1	13.9	41.7	AUG 1	-10.0	JAN 1	2210	653	136	39	DEC 17	191	97	DEC 21	29	21						26.4		MAR 23	4.0	169	94	82	32	2			90	0	135	0
BLUE CANYON	15.6	5.9	10.8	34.4	AUG 1	-10.0	MAR 14	2984	264	1199	154	NOV 21	3551	414	NOV 20-21	42	44	52	51				13.0	20	FEB 21					76	31			4	0	72	0
EUREKA U	14.4	7.9	11.2	23.9	SEP 18	-1.1	NOV 19	2569	0	744	51	OCT 24-25	T		NOV 19								21.0	5	DEC 20	7.2	61	97	207	121				0		5	0
FRESNO	25.1	10.4	17.8	41.7	JUL 7	-2.8	NOV 20	1245	1093	167	28	DEC 17	0	0		54	38	59	74	3.0	1.3	30	13.0	31	MAR 12+	4.3	175	83	107	34	0	3	35	103	0	8	0
LONG BEACH	24.2	13.2	18.7	38.3	JUL 26	2.2	MAR 3	543	729	277	52	MAY 8-9	0	0		61	54	76	82	2.7	1.1	24	13.0	32	MAR 1	4.6	159	113	94	31	0	3	35	18		0	0
LOS ANGELES	21.6	13.4	17.5	32.8	NOV 25	4.4	MAR 15	594	334	347	61	AUG 16-17	0	0		69	68	81	85	3.3	1.7	25	18.3		NOV 27	4.9	143	120	102	32		8	3	1	0	0	0
LOS ANGELES	23.9	13.7	18.8	34.1	JUL 26	4.4	JAN 11	506	730	380	61	MAY 8-9	0	0																31				11		0	
MT SHASTA R	16.8	2.2	9.5	37.6	AUG 7	-15.0	JAN 6	3379	207	602	56	DEC 21-22	1643	419	NOV 20-21	52	43	63	73	2.3	0.6	36								92	15			33		156	
OAKLAND	18.7	10.9	14.8	35.0	JUL 30	1.7	JAN 18+	1322	91	297	38	NOV 21	0	0		72	65	78	82	3.7	1.9	27	13.0	13	NOV 21	5.1	130	124	111	57	0	2	13	3		0	0
RED BLUFF	24.9	10.9	17.9	45.0	JUL 30+	-3.3	NOV 20	1252	1149	490	58	NOV 20-21	51	51	NOV 20-21	51	37	59	69	3.7	0.4	33	17.9	5	DEC 14	5.2	149	78	138	56	2	9	13	94		10	
SACRAMENTO	22.8	8.9	15.8	41.1	JUL 30	-2.2	JAN 9	1430	563	297	40	NOV 21	0	0		61	42	71	81	3.4	1.5	20	14.3		MAR 27+	4.5	161	101	103	47	0	5	36	60		6	0
SANDBERG R	18.3	[illegible]	13.2	35.0	AUG 15	-5.0	MAR 13	2288	476	399	95	DEC 27-28	1229	465	JAN 6-7	42	41	48					21.9	12	DEC 20					39				17	2	47	0
SAN DIEGO	21.6	15.1	18.4	30.6	JUL 26	6.7	MAR 15	415	512	234	54	AUG 16-17	0	0		65	65	78	79	3.0	1.5	28	14.8		MAR 1	5.0	137	122	106	44		4	22	0		0	0
SAN FRANCISCO	18.1	9.4	13.7	36.1	JUL 30	1.7	JAN 19+	1677	49	319	46	NOV 21	0	0		67	60	74	78	4.8	3.3	29	17.4	13	DEC 21+	5.1	132	117	116	50		2	15	3		0	0
SAN FRANCISCO	17.[illegible]	10.9	13.9	29.4	JUL 30	4.4	JAN 18+	1605	29	292	41	NOV 20-21																		52				0		0	0
SANTA MARIA	21.1	7.7	14.4	32.8	JUL 31	-2.2	MAR 14+	1451	58	251	59	DEC 27-28	0	0		56	58									4.2	177	110	78	35				1		22	0
STOCKTON	24.6	10.1	17.3	42.[illegible]	JUL 30	-1.1	FEB 4+	1245	932	197	14	DEC 22-23	0	0		61	43	68	79	3.8	2.1	30	13.4	16	DEC 21+	4.9	153	86	126	42	0	4	51	45		10	0
COLORADO																																					
ALAMOSA	15.[illegible]	-4.4	5.4	32.2	AUG 7	-30.0	JAN 12+	4550	36	200	23	JUL 21	584	163	APR 20	38	36	68	77											44	8			1	21	222	45
COLORADO SPRINGS	17.4	2.8	10.1	35.0	JUL 19+	-18.9	JAN 9	3222	277	477	71	AUG 14-15	792	323	MAR 10-11	37	38	56	60	4.8	1.0	4	25.0	35	MAR 11	5.2	126	111	128	85	9	76		14	17	148	3
DENVER	19.2	3.4	11.4	36.7	JUL 17	-20.0	JAN 9	2914	444	263	28	MAR 10-11	709	203	MAR 10-11	36	34	53	61	4.0	0.4	20	21.0		MAR 11	5.4	117	133	115	81	10	47	5	33	12	134	4
GRAND JUNCTION	20.6	5.1	12.9	39.3	AUG 7+	-20.6	JAN 11	2818	685	144	11	OCT 6-7	356	84	NOV 19	35	29	45	53	3.2	0.5	12	21.0	5	MAY 12	5.0	128	132	105	57	6	31	7	73	14	140	4
PUEBLO	21.8	2.9	12.4	39.9	JUL 19+	-21.7	JAN 10	2760	636	251	50	JUL 25	175	91	FEB 24-25	38	33	59	71	4.3	0.3	36	29.5		MAR 11	4.9	145	116	104	43	2	33	4	70		156	3
CONNECTICUT																																					
BRIDGEPORT	15.4	7.1	11.2	33.9	JUL 19	-16.1	JAN 18	2964	434	1203	117	MAR 22-23	543	86	JAN 14-15		75	59	66				25.9	08	MAR 22	6.1	99	104	162	126	1			5	37	91	0
HARTFORD	16.1	4.6	10.3	38.3	JUL 21	-20.0	JAN 28	3342	503	1368	57	MAY 8-9	1412	224	JAN 7	76	75	53	62	3.4	1.2	28	17.4		MAR 24	6.3	58	111	166	142	14	25	21	26	46	125	4
DELAWARE																																					
WILMINGTON	17.1	6.9	12.0	36.1	JUL 21+	-19.4	JAN 17	2874	672	1019	56	MAR 22	401	127	JAN 7	73	75	54	62	4.3	1.6	28	17.9	31	JAN 28	6.1	96	107	159	124	4	37	21	17	33	98	1
DIST OF COLUMBIA																																					
WASHINGTON DULLES	18.9	5.9	12.3	39.[illegible]	JUL 6	-20.0	JAN 12	2785	651	912	80	DEC 17-18	264	91	JAN 6-7	75	77	50	60	3.7	1.2	27	17.9	29	MAR 22	6.0	107	104	154	127	4	36	22	40	31	110	4
WASHINGTON NATIONAL	19.7	9.[illegible]	14.3	37.8	JUL 6	-16.7	JAN 17	2219	979	918	73	DEC 17-18	254	127	JAN 6-7	71	73	51	58	4.5	1.2	27	22.4		MAY 8	6.0	106	106	153	113	3	3[illegible]	5	46	17	75	0
FLORIDA																																					
APPALACHICOLA	24.5	14.3	19.4	36.1	JUN 11	-9.4	JAN 19	962	1417	991	95	JUL 17-18	10	10	JAN 18	86	87	63	75	3.6	0.5	13	14.3	SE	AUG 28	5.7	106	116	143	103	0	86	23	46		28	0
DAYTONA BEACH	26.5	16.1	21.3	37.2	JUL 26	-5.0	JAN 20	621	1757	1033	92	JAN 2-3	T	T	JAN 18-19	84	86	58	73	3.7	0.5	11	13.4	29	JAN 10	5.6	100	141	124	107	0	77	18	63		12	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
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State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 a m EST	7:00 a m EST	1:00 p m EST	7:00 p m EST	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
	°C	C	C	C		°C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
FLORIDA																																					
FORT MYERS	27.8	17.1	22.4	33.9	AUG 15+	-1.1	JAN 20+	333	1883	1373	113	MAY 10-11	0	0		87	91	57	73	3.6	1.0	7	14.5	02	JUN 28	5.3	97	180	88	113	0	94	15	62	0	3	0
JACKSONVILLE	26.0	13.2	19.6	37.8	JUL 22+	-7.2	JAN 19	987	1510	1005	75	AUG 20-21	T	T	FEB 16+	86	87	54	72	3.1	0.2	21	14.8	W	SEP 8	5.7	110	118	137	102	0	68	47	103	0	38	0
KEY WEST	27.4	22.4	24.9	32.2	AUG 26	8.9	JAN 20+	67	2525	1144	138	MAY 3-4	0	0		75	76	66	72	4.7	2.7	9	13.9	13	AUG 28	5.9	82	157	126	98	0	53	1	5	0	0	0
LAKELAND U	27.7	16.4	22.1	37.8	JUN 13	-3.9	JAN 19	490	1901	1148	108	JUL 3-4	25	25	JAN 19											5.5	99	167	99	125	1			109	0	4	0
MIAMI	27.6	20.7	24.1	33.3	OCT 3+	-.6	JAN 20	163	2335	1650	294	MAY 4-5	0	0		80	85	62	70	4.3	1.7	8	14.3	33	DEC 21+	6.4	64	153	148	118	0	47	3	38	0	1	0
ORLANDO	27.8	15.9	21.8	37.2	JUN 14+	-6.7	JAN 20	517	1858	968	90	SEP 26	T	T	JAN 19+	86	89	54	69	3.7	0.4	7	14.3	29	MAY 9	6.0	86	136	143	116	0	89	30	107	0	10	0
PENSACOLA	24.4	14.6	19.5	36.7	JUN 11	-12.2	JAN 19	1005	1483	1077	74	APR 22	64	38	JAN 31	81	84	60	69	3.8	0.4	12	14.3	33	JAN 18	5.4	106	137	122	107	2	90	26	59	1	28	0
TALLAHASSEE	26.1	11.9	19.0	37.2	JUL 14+	-8.9	JAN 19	1081	1388	1491	77	AUG 1-2	T	T	FEB 16+	89	91	54	70	2.9	0.3	8	14.8	11	SEP 3	5.6	109	123	133	116	0	90	42	99	0	53	0
TAMPA	27.2	16.7	22.0	36.7	JUN 12	-3.3	JAN 20	535	1918	799	48	AUG 21-22	5	5	JAN 19	82	85	56	68	3.4	0.6	7	14.3	26	FEB 24	6.2	82	137	146	109	0	58	26	99	0	9	0
WEST PALM BEACH	27.9	18.8	23.4	34.4	AUG 21+	-2.8	JAN 20	231	2140	1632	134	MAY 5	T	T	JAN 19	81	81	62	73	4.5	1.6	9	13.9	30	JAN 19	6.0	77	156	132	130	0	67	6	69	0	3	0
GEORGIA																																					
ATHENS	22.3	10.5	16.4	40.0	JUL 8	-15.0	JAN 19	1743	1096	1172	101	OCT 25-26	25	20	JAN 24	77	83	54	61	3.0	0.8	27	11.2	28	APR 5+	5.7	117	102	146	109	0	64	34	61	4	71	0
ATLANTA	21.5	9.9	15.7	36.7	JUL 8	-17.2	JAN 19+	1860	964	1186	99	NOV 4-5	25	25	JAN 31	75	80	52	58	3.9	0.6	29	17.9	30	JUN 30	5.7	125	95	145	118	1	57	36	42	6	72	0
AUGUSTA	24.3	10.4	17.5	40.0	JUL 8	-11.7	JAN 17	1501	1254	1109	76	AUG 2-3	13	13	JAN 31	79	83	49	62	3.1	0.7	25	17.9	18	OCT 2	5.4	127	109	129	112	0	60	23	87	2	66	0
COLUMBUS	24.8	11.9	18.6	40.0	JUL 7	-14.4	JAN 19	1353	1433	1321	173	AUG 2-3	36	36	JAN 31	83	87	53	62	3.1	0.2	34	15.6	35	MAY 8	5.5	107	120	138	116	1	67	22	105	2	57	0
MACON	24.9	11.4	18.2	39.4	JUN 13	-15.0	JAN 19	1385	1401	959	74	MAR 21-22	76	51	JAN 31	83	90	54	63	3.2	0.3	28	16.1	NW	JUN 6	5.6	114	106	145	100	2	56	21	106	1	64	0
ROME	22.7	9.3	16.0	40.6	JUL 8	-18.3	JAN 17	1918	1118	1386	90	OCT 25	43	43	JAN 24															114	1			77	0	83	1
SAVANNAH	24.9	13.0	18.9	39.4	JUL 22	-8.9	JAN 19+	1179	1468	1063	74	AUG 24	51	33	JAN 31	79	83	51	64	3.2	0.5	25	17.0	W	SEP 10+	5.9	104	106	155	119	1	70	42	85	2	46	0
HAWAII																																					
HILO	28.8	19.4	24.1	32.8	DEC 6	12.8	DEC 23	0	2151	2296	135	MAY 17-18	0	0		77	66	81	85	3.0	0.5	15	10.7	SE	DEC 6	6.6	48	157	160	265	0	3	0	4	0	0	0
HONOLULU	29.6	21.7	25.7	33.3	AUG 13	15.0	JAN 22	0	2725	314	38	MAY 14	0	0		71	55	69	75	5.5	4.2	7	16.5	NE	MAR 7	5.4	78	215	72	91	0	0	0	16	0	0	0
KAHULUI	29.0	20.1	24.6	33.9	OCT 2+	13.9	JAN 24	0	2317	292	57	APR 3-4	0	0		76	59	68	75	5.4	4.3	5	15.6	NE	APR 12+	4.2	177	132	56	96	0	1	0	24	0	0	0
LIHUE	27.6	21.5	24.6	30.6	SEP 5+	16.1	JAN 28	0	2319	1025	170	MAY 9-10	0	0		77	66	76	80	5.5	3.9	7	14.8	S	MAY 12	6.2	52	188	125	211	0	2	0	0	0	0	0
IDAHO																																					
BOISE	17.0	3.8	10.4	38.9	AUG 1	-25.6	JAN 8	3291	457	310	29	JUN 9-10	577	130	JAN 2-3	46	39	57	64	3.6	0.3	31	18.8	NW	MAR 27	6.3	89	100	176	92	7	14	28	49	32	129	5
LEWISTON	17.3	6.0	11.7	41.1	AUG 18	-15.0	DEC 31	2942	562	311	29	AUG 29-30	610	170	NOV 22-23	55			64				20.8		DEC 6					107	8			52	21	86	0
POCATELLO	15.7	1.5	8.6	36.1	JUL 16+	-26.7	JAN 11	3778	288	275	22	MAY 15-16	693	109	JAN 3-4	49	41		67				18.0	W	JUN 14	6.3	84	116	165	90	9	23	27	39	42	163	13
ILLINOIS																																					
CAIRO U	20.1	10.9	15.5	37.8	JUL 7+	-18.3	JAN 17	2188	1223	1193	96	MAR 27-28	305	94	JAN 9-10								21.5	SW	MAR 28					111	4			53	28	67	1
CHICAGO O HARE	15.4	5.0	10.2	36.7	JUL 15+	-27.2	JAN 16	3501	616	827	49	JUN 30	864	137	DEC 20-21	72	75	58	60	4.7	1.5	24	17.0	22	MAR 29	6.5	83	105	177	120	9	40	16	31	59	113	26
CHICAGO MIDWAY	15.3	5.5	10.4	37.2	JUL 15	-28.3	JAN 16	3504	677	1049	106	SEP 31-1	1633	251	JAN 9-10	71	76	59	60	4.9	1.5	23	21.0	S	MAR 29	6.3	91	103	171	134	21	65	8	33	59	115	26
MOLINE	15.6	4.4	10.0	36.7	JUL 15+	-30.0	JAN 17	3565	593	1066	77	JUN 30	1326	147	MAR 21	72	76	58	61	4.7	1.3	24	21.0	SE	JUL 10	6.1	95	102	168	124	20	51	14	27	63	123	30
PEORIA	15.8	4.7	10.3	37.8	JUL 14+	-31.7	JAN 17	3489	617	976	73	AUG 6-7	1328	170	DEC 2-3	75	79	59	62	4.6	1.2	21	19.7	SW	MAR 30	6.4	84	105	176	133	15	58	22	23	65	120	30
ROCKFORD	14.4	3.2	8.8	36.7	JUL 14	-30.0	JAN 16	3865	471	965	92	MAY 15	1313	152	DEC 8	76	79	58	62	4.4	1.0	24	17.9	18	MAR 28	6.3	95	100	170	131	15	49	29	14	72	136	38
SPRINGFIELD	17.1	6.1	11.6	37.8	JUN 5	-29.4	JAN 17	3160	761	1085	64	OCT 30-1	1194	157	NOV 26-27	80	84	64	67	5.0	1.4	21	21.0	W	APR 2	6.4	93	95	177	136	13	56	16	31	50	100	26

See reference notes at end of table.

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State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Cooling degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow †: Total	Snow †: Greatest in 24 hours	Snow †: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Resultant speed	Wind: Resultant direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation 25mm or more	Number of days: Snow † 25.4mm. or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp.: 32.2 C and above	Number of days: Max temp.: 0 C and below	Number of days: Min. temp.: 0 C and below	Number of days: Min. temp.: −17.8 C and below
	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m s	m s		m s			Tenths											
INDIANA																																					
EVANSVILLE	19.1	8.0	13.6	37.2	JUN 5	-29.4	JAN 17	2666	986	1272	94	AUG 23-24	706	135	JAN 9	77	79	59	63	3.3	0.8	24	21.9	[illegible]	JUN 30	6.1	93	118	154	133	8	42	16	44	31	87	19
FORT WAYNE	15.4	4.7	10.1	35.6	JUL 7+	-26.7	JAN 17	3530	571	972	54	APR 22-23	1377	157	DEC 8-9	78	81	62	64	4.7	2.0	24	22.4	[illegible]	JAN 26	6.8	78	90	197	134	14	42	17	27	62	117	27
INDIANAPOLIS	17.1	6.1	11.6	35.0	JUL 19+	-28.9	JAN 17+	3145	787	966	77	OCT 30-1	1130	203	JAN 9-10	84	87	65	69	4.1	1.3	23	19.7	[illegible]	JAN 26	6.3	97	95	173	131	14	44	17	23	52	106	26
SOUTH BEND	15.2	5.2	10.2	35.6	JUL 15+	-26.7	JAN 17	3449	552	1246	76	SEP 1	3388	445	NOV 25-26	79	82	63	66	4.6	1.7	23	17.4	21	APR 2	7.0	67	86	212	156	31	49	23	19	61	108	16
IOWA																																					
BURLINGTON	15.9	5.1	10.5	37.8	JUL 14	-30.6	JAN 17	3419	627	852	64	NOV 7-1	1046	127	DEC 2-3	74	78	60	62	4.6	1.0	23	15.6	13	MAR 28+	6.1	97	102	166	117	16	52	11	25	57	118	28
DES MOINES	16.6	5.4	11.0	39.4	JUL 13+	-27.8	JAN 16	3361	746	944	119	AUG 25-26	1001	196	DEC 31	69	73	54	54	4.8	0.6	26	19.2	[illegible]	MAR 29	6.2	96	98	171	111	14	41	14	35	55	122	25
DUBUQUE	13.2	2.9	8.1	36.1	JUL 14	-32.2	JAN 16	4069	381	991	107	JUL 16-17	1572	160	DEC 5		76	60												127	2			4	77	137	39
SIOUX CITY	15.4	3.7	9.6	36.7	JUL 18+	-28.9	JAN 16	3613	479	890	93	JUL 20-21	648	185	MAR 2	75	81	61	59	5.1	0.2	26	25.[illegible]	[illegible]	NOV 9	6.0	103	100	162	108	5	47	22	18	57	134	26
WATERLOO	13.5	1.6	7.6	37.8	JUL 14	-33.3	JAN 17	4250	374	863	70	SEP 17-18	1001	157	DEC 31	76	79	58	60	5.1	0.8	24	19.7	[illegible]	JUN 16	6.7	74	105	186	122	6	55	18	14	73	149	47
KANSAS																																					
CONCORDIA	18.7	6.2	12.4	40.0	JUL 24	-22.2	JAN 16+	2843	765	895	99	AUG 15-16	307	74	JAN 4	74	81	58	57	5.3	1.1	17	18.8	[illegible]	DEC 17+	5.5	126	94	145	[illegible]	[illegible]	71	17	83	32	119	10
DODGE CITY	21.4	7.7	14.3	41.1	JUL 6	-19.4	JAN 10	2438	1030	562	65	AUG 18-19	234	69	APR 3	66	73	47	46	5.8	1.3	19	21.9	[illegible]	FEB 23	5.3	127	105	133	8	[illegible]	54	26	73	17	115	5
GOODLAND	18.7	3.2	11.0	39.4	JUL 18	-21.7	DEC 9	3111	493	510	57	MAY 20-21	701	229	MAR 11	50	48	73	80	5.8	0.7	22	20.1	33	DEC 20	4.9	146	108	111	9	[illegible]	58	35	42	15	151	12
TOPEKA	19.2	6.8	13.0	36.7	JUL 24+	-26.1	JAN 11	2761	868	1237	104	SEP 31-1	361	91	JAN 22-23	78	82	59	60	4.5	0.9	19	19.2	[illegible]	APR 4	6.1	113	93	159	115	5	67	22	43	33	113	16
WICHITA	20.7	8.2	14.6	39.4	JUL 24	-18.9	JAN 9	2332	1023	908	73	SEP 31-1	91	56	JAN 5-6	72	79	56	55	5.0	1.2	19	24.1	SW	MAR 10	[illegible]	123	103	139	105	1	71	13	51	17	101	2
KENTUCKY																																					
COVINGTON	15.9	5.8	11.4	34.4	JUL 20+	-31.7	JAN 18	3166	686	1055	49	APR 1-2	1369	203	JAN 9-10	80	84	63	67	4.1	1.6	24	19.7	25	MAR 4	6.7	75	151	139	14[illegible]	14	51	17	21	[illegible]	[illegible]	28
LEXINGTON	18.6	7.8	13.2	34.4	JUL 8	-24.4	JAN 17	2650	851	1020	45	JUL 10	701	94	JAN 23-24	75	79	59	63	3.9	1.4	20	14.3	24	MAR 22	6.8	71	121	173	147	7	46	11	21	37	[illegible]	[illegible]
LOUISVILLE	19.2	8.4	13.8	36.1	JUL 15	-25.0	JAN 17	2539	954	1247	83	OCT 30-1	719	198	JAN 9-10	78	82	61	63	3.8	1.1	23	17.4	[illegible]	FEB 23	6.6	[illegible]	[illegible]	180	145	[illegible]	[illegible]	3	[illegible]	[illegible]	81	[illegible]
LOUISIANA																																					
BATON ROUGE	25.2	14.2	19.7	36.7	JUL 3	-8.9	JAN 19	993	1540	1974	140	SEP 5-6	T	T	JAN 30 +	82	87	60	64	3.4	0.4	13	15.6	13	MAY 2	5.8	[illegible]	[illegible]	147	[illegible]		75	33	[illegible]		24	[illegible]
LAKE CHARLES	25.[illegible]	14.7	19.8	36.1	JUL 6+	-7.8	JAN 10	920	1528	1497	178	AUG 22-23	T	T	JAN 30	87	89	63	71	3.9	1.0	13	16.1	17	MAR 27	5.8	103	129	133	122		[illegible]	47	[illegible]		19	1
NEW ORLEANS	25.4	15.0	20.2	36.1	JUL 1	-7.2	JAN 19	897	1646	1849	132	APR 20-21	T	T	JAN 30	85	89	65	70	3.1	0.4	11	13.4	21	JAN 9	6.0	96	116	153	132		75	15	[illegible]		17	[illegible]
SHREVEPORT	24.9	11.6	18.3	37.2	JUL 17+	-11.7	JAN 10	1314	1363	817	80	FEB 10-11	137	137	JAN 30	85	92	59	61	3.4	0.3	18	14.3	29	MAR 27	6.7	129	89	147	85	1	44	15	104	[illegible]	49	[illegible]
MAINE																																					
CARIBOU	9.3	-0.9	4.2	35.6	MAY 22	-31.7	JAN 15+	5217	124	1053	65	AUG 4-5	3640	371	JAN 28-29		75	60	66							7.3	42	111	212	159	33			[illegible]	[illegible]	170	[illegible]
PORTLAND	12.4	1.4	6.9	37.2	JUL 21	-26.1	DEC 12	4263	171	1444	90	JAN 10-11	2256	330	JAN 7-8	84	81	63	75	3.8	1.1	29	17.[illegible]	[illegible]	FEB 25	6.3	[illegible]	[illegible]	182	133	23	14	60	2	56	154	17
MARYLAND																																					
BALTIMORE	19.1	7.9	13.5	37.2	JUL 17	-18.9	JAN 17	2520	819	924	86	DEC 18-19	244	102	JAN 6-7	71	75	53	58	3.8	1.5	29	2[illegible].6	[illegible]	MAR 31	5.7	127	104	134	105	2	31	7	45	20	89	1
MASSACHUSETTS																																					
BLUE HILL OBS	14.7	4.4	9.4	37.8	JUL 21	-20.0	JAN 18	3518	374	1313	72	MAY 9-10	1664	411	JAN 7-8	80	79	58	70				3[illegible]	[illegible]	MAR 22					135	14			9	41	116	4
BOSTON	15.7	7.1	11.4	38.9	JUL 21	-16.1	JAN 18	2957	498	1122	78	MAY 9-10	1173	351	JAN 7	74	73	60	66	5.4	1.9	28	26.8	[illegible]	MAR 22	5.9	115	95	155	131	11	22	22	14	37	[illegible]	[illegible]
WORCESTER	12.9	3.4	8.2	33.3	JUL 21	-21.7	JAN 18	3879	230	1244	54	OCT 8-9 +	2200	335	MAR 22-23	72	71	56	65	4.2	2.3	29	17.4	29	JAN 26	6.5	83	104	178	143	21	25	81	2	62	[illegible]	[illegible]

See reference notes at end of table

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State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am EST	7:00 am EST	1:00 pm EST	7:00 p.m. E.S.T.	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
MICHIGAN	C	C	C	C		°C		Base 18.3° C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
ALPENA	11.7	.3	6.0	36.7	JUL 20	-28.3	JAN 9	4566	143	730	42	SEP 24	2088	274	DEC 8-9	82	83	62	69	4.2	0.9	25	13.0	NW	APR 7+	6.8	69	115	181	154	27	25	26	3	78	168	23
DETROIT	14.9	6.4	10.7	37.8	JUL 15	-21.1	JAN 28	3302	585							67	69	56	57	5.0	1.7	24	16.5	26	SEP 26+							33	7	17	58	104	4
DETROIT METRO	14.9	3.8	9.4	38.9	JUL 15	-23.3	JAN 17	3674	485	835	39	JUL 18-19	1440	211	MAR 17-18	77	80	58	63	4.5	1.6	25	25.0	W	JUL 19	6.6	72	104	189	152	17	36	16	25	64	122	18
FLINT	13.6	3.6	8.6	37.2	JUL 15	-24.4	JAN 16	3853	364	733	40	OCT 30-1	968	132	JAN 9-10	77	79	61	64	4.7	1.7	24	16.5	30	JUL 4	7.0	61	106	198	147	11	30	18	9	72	129	16
GRAND RAPIDS	14.4	3.4	8.9	34.4	JUL 15	-25.6	JAN 9	3761	397	960	52	JUL 3-4	1941	152	JAN 28	82	84	63	69	4.6	1.6	23	18.3	SW	OCT 11	7.1	67	93	205	161	21	34	34	19	69	137	15
HOUGHTON LAKE	11.9	.8	6.4	35.6	JUL 19	-28.3	JAN 9	4490	197	684	38	AUG 4-5	1633	157	NOV 25	83	85	64	68	3.8	1.1	26	13.9	22	MAR 29	6.9	64	108	193	169	21	36	35	7	83	163	30
LANSING	14.3	3.0	8.7	37.2	JUL 15	-27.2	JAN 9	3855	399	626	34	SEP 12-13	1318	183	JAN 9-10	86	89	67	71	4.5	1.7	24	26.4	SW	APR 2	7.1	63	103	199	156	13	33	23	18	74	134	21
MARQUETTE	10.2	2.1	6.2	40.0	JUL 19	-24.4	JAN 9	4502	127	915	68	SEP 18-19	2918	262	MAR 3-4								16.1	SW	NOV 21					172	34			3	89	145	20
MUSKEGON	12.9	3.8	8.4	33.3	JUL 14	-22.2	JAN 9	3840	289	816	33	OCT 30-1	3985	302	JAN 27-28	79	82	66	69	5.5	1.3	24	15.6	24	OCT 11	7.0	72	89	204	164	42	45	25	1	75	136	7
SAULT STE MARIE	9.2	-1.1	4.1	32.8	JUL 20	-34.4	JAN 9	5191	48	988	42	JUL 5-6	4067	305	JAN 30-31	89	89	72	79	4.0	0.4	30	17.0	SE	SEP 24	7.2	62	90	213	193	48	23	36	1	98	166	35
MINNESOTA																																					
DULUTH	8.9	-.9	4.1	31.7	JUL 19	-37.2	JAN 9	5220	68	864	86	SEP 23-24	1499	221	MAR 3-4	76	79	62	62	4.7	0.4	32	20.1	SW	SEP 9	7.1	62	99	204	139	15	36	80	0	103	153	49
INTERNATIONAL FALLS	8.8	-2.9	2.9	34.4	JUL 19	-40.0	JAN 9	5660	104	808	54	SEP 8-9	1872	246	MAR 29-30	79	83	63	63	3.7	0.6	27	13.9	36	NOV 9	7.2	58	101	205	160	22	42	26	3	104	180	72
MINNEAPOLIS	12.6	2.1	7.3	37.8	JUL 19	-35.6	JAN 9	4331	384	886	187	AUG 30-31	1537	203	MAR 2-3	74	79	60	60	4.6	0.5	26	18.3	W	NOV 20	6.6	76	112	177	145	18	55	19	11	83	144	43
ROCHESTER	12.6	1.4	7.0	35.6	JUL 14	-34.4	JAN 9	4383	304	743	51	JUN 16	1290	185	DEC 31	77	79	63	66	5.7	1.4	24	19.2	29	JUN 28	6.7	65	118	182	127	17	48	34	10	85	142	48
ST CLOUD	11.9	-.2	5.9	36.7	JUL 19	-41.7	JAN 9	4729	238	904	75	AUG 26-27	1179	99	MAR 2-3		83	61	62							6.3	84	112	169	137	21			7	86	155	50
MISSISSIPPI																																					
JACKSON	24.4	12.1	18.2	36.7	JUL 8+	-14.4	JAN 19	1393	1408	1361	99	NOV 29-30	147	81	JAN 30-31	82	87	56	62	3.3	0.7	16	14.3	15	JUL 8+	5.7	113	110	142	113	2	79	20	94	3	58	0
MERIDIAN	24.7	11.4	18.1	38.9	JUL 4	-15.6	JAN 19	1407	1388	1805	121	APR 21-22	127	76	JAN 30-31	83	85	53	64	2.7	0.4	22	11.6	13	MAR 11+	5.9	98	117	153	116	3	59	28	105	3	61	0
MISSOURI																																					
COLUMBIA REGIONAL	17.8	7.0	12.4	37.2	AUG 7	-27.8	JAN 17	2900	791	928	60	MAY 1-2	1041	208	FEB 26	78	83	62	64	4.3	1.0	20	22.4	SW	MAR 30	6.3	98	82	185	118	12	58	28	34	43	99	15
KANSAS CITY	17.6	7.3	12.4	36.1	JUN 10+	-25.0	JAN 16	2875	780	1263	224	SEP 12	414	81	JAN 4-5	77	82	64	64	4.6	1.1	19	16.1	SW	APR 10	5.9	108	98	159	120	8	68	30	28	43	102	15
ST JOSEPH	17.9	6.7	12.3	37.2	JUL 6	-24.4	JAN 16+	2915	788	1099	112	SEP 12	328	51	DEC 8 +															92	6			38	39	107	[illegible]
ST LOUIS	18.5	7.5	13.0	36.7	JUL 7+	-25.6	JAN 16	2801	926	1103	75	MAR 27-28	1250	168	DEC 5	82	89	64	67	4.6	1.2	23	18.8	SW	MAY 4	6.1	100	96	169	123	12	48	16	37	42	94	13
SPRINGFIELD	19.7	8.0	13.8	37.2	AUG 10	-23.9	JAN 16	2508	940	989	52	JUN 21-22	508	183	JAN 9	78	83	60	62	4.3	1.7	19	16.5	NW	MAY 30	5.8	113	97	155	119	7	63	21	50	25	96	10
MONTANA																																					
BILLINGS	14.9	1.9	8.4	38.3	JUL 17	-29.4	DEC 9	3849	303	311	18	NOV 18-19	1814	185	NOV 18-19	48	41	56	63	5.0	1.9	27	20.1	NW	DEC 14	6.2	87	123	155	113	24	28	17	26	42	147	23
GLASGOW	11.9	-1.2	5.3	36.7	AUG 24	-38.9	DEC 9	4864	178	216	25	SEP 23	681	86	DEC 3	57	50	68	77	4.7	0.5	35	17.4	32	APR 16+	6.4	77	117	171	103	10	23	15	16	71	173	43
GREAT FALLS	13.9	.6	7.3	35.0	JUL 16	-32.8	DEC 8	4173	163	379	32	JUL 9-10	1689	279	MAR 28-29	48	44	58	65	5.3	3.2	24	20.6	SW	FEB 16	7.1	53	113	199	113	18	22	10	17	43	155	26
HAVRE	14.3	-1.1	6.6	38.3	JUL 21	-38.3	DEC 9	4435	206	320	46	MAR 28-29	1867	683	MAR 28-29	52	45		73				18.8	W	NOV 2+					92	17	13	8	24	56	170	44
HELENA	13.9	-.4	6.7	33.9	AUG 19	-28.9	DEC 31	4315	125	288	28	MAY 14-15	1445	180	DEC 4-5	49	41	58	66	3.6	1.9	28	21.0	NW	NOV 26	6.9	64	110	191	103	16	31	9	13	42	194	19
KALISPELL	12.4	-.5	6.0	33.9	AUG 18+	-29.4	DEC 31	4528	72	412	31	JUL 25-26	1976	208	DEC 5-6	59	51	71	78	2.7	0.5	18	13.4	03	DEC 29	7.4	57	79	229	129	29	23	27	10	63	188	14
MILES CITY	14.2	1.2	7.7	40.0	JUL 17	-37.2	DEC 9	4213	381	401			1189			54	48	66	74	4.7	1.1	32								106	17	30	18	28	57	153	38
MISSOULA	13.7	.1	6.9	36.7	AUG 18	-23.9	DEC 31	4272	164	330	22	AUG 29-30	1420	175	MAR 18-19	64	52	72	83	2.7	0.8	30	19.2	NW	JUN 1	7.3	58	81	226	130	16	22	25	21	51	192	7
NEBRASKA																																					
GRAND ISLAND	17.6	4.7	11.1	38.9	JUL 5	-26.1	JAN 16	3182	614	971	149	SEP 1-2	864	307	MAR 19	75	80	56	55	5.2	0.4	20	19.7	35	NOV 9	5.5	121	108	136	87	8	58	30	32	33	134	17
LINCOLN	17.6	4.4	11.1	38.9	JUL 3	-28.3	JAN 16	3297	695	858	89	SEP 2-3	696	211	MAR 19	75	80	57	58	4.8	0.4	22	26.4	N	AUG 20	5.8	110	103	152	94	6	61	12	39	40	136	21

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 a m E S T	7:00 a m E S T	1:00 p m E S T	7:00 p m E S T	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m s	m s		m s			Tenths											
NEBRASKA																																					
NORFOLK	16.3	4.0	10.2	37.8	JUL 18+	-28.9	JAN 16	3486	574	919	70	MAY 26-27	912	188	NOV 8-9	72	77	55	54	5.6	0.8	27	21.5	33	NOV 9	5.8	112	104	149	103	12	60	17	26	46	140	23
NORTH PLATTE	17.2	1.7	9.4	37.2	JUL 18+	-25.0	DEC 9+	3580	400	632	67	JUL 7-8	747	206	APR 3	75	80	52	51	4.4	0.2	2	26.4	N	MAR 11	5.9	99	120	146	90	8	51	16	23	32	156	22
OMAHA	17.4	5.6	11.4	37.8	JUL 6+	-29.4	JAN 16	3129	666	1108			505			78	83	62	60	4.1	0.3	23								105	10	58	14	23	45	119	19
OMAHA (NORTH) WSFO	16.2	5.0	10.6	37.8	JUL 6+	-28.3	JAN 16	3352	608	1055	94	JUL 16-17	772	112	JAN 14-15											5.9	106	108	151	116	12	54	5	23	52	126	21
SCOTTSBLUFF	18.5	2.9	10.7	39.4	JUL 17	-30.0	DEC 9	3255	525	379	35	APR 15-16	980	201	DEC 7-8	42	39	67	71	4.6	1.0	34	18.3	34	APR 4	5.7	110	119	136	81	13	52	7	46	23	150	16
VALENTINE	15.6	1.3	8.4	40.6	JUL 18	-28.9	JAN 16	3956	407	830	70	JUL 9	2134	610	MAR 11-12	71	75	53	53	4.1	0.9	29	26.8	SW	MAY 16	5.5	124	110	131	119	19			28	56	165	29
NEVADA																																					
ELKO	18.6	.7	9.6	37.8	AUG 2	-22.2	JAN 6	3474	353	164	17	NOV 21-22	511	79	JAN 3	37	28	46	55	2.8	0.9	25	17.9	32	MAR 27	5.5	122	98	145	71	6	19	5	56	12	178	7
ELY	16.8	-2.5	7.2	36.1	AUG 2	-27.2	DEC 20	4134	110	233	28	MAY 15-16	1049	163	MAY 15-16	34	28	45	55	4.6	2.3	21	25.9	NW	MAR 27	5.3	129	111	125	77	14	36	2	16	13	219	16
LAS VEGAS	27.9	12.4	20.2	46.1	AUG 2+	-5.0	JAN 10	1107	1851	101	34	AUG 16-17	0	0		22	17	28	35	4.4	1.8	23	24.1	SW	MAY 5	3.5	210	84	71	23	0	12	0	137	0	19	0
RENO	20.1	.9	10.6	37.8	AUG 1	-14.4	JAN 9	3081	278	174	20	DEC 16-17	312	51	DEC 18	43	30	52	69	3.0	0.8	27	21.5	SW	DEC 15	5.1	135	99	131	45	6	16	2	62	1	188	[illegible]
WINNEMUCCA	20.4	.3	10.4	40.0	AUG 2+	-21.7	NOV 20	3258	412	205	43	JUN 8-9	485	81	JAN 2	38	30	47	56	3.6	0.8	26	21.1	[illegible]	MAR 27	5.4	129	97	139	61	8	16	4	76	5	194	5
NEW HAMPSHIRE																																					
CONCORD	13.8	.2	7.1	38.3	JUL 21+	-26.7	JAN 28	4309	271	1058	56	SEP 20-21	2370	394	JAN 7	81	81	53	63	3.1	1.3	29	14.9	[illegible]	DEC 10+	6.3	92	106	167	129	21	13	4[illegible]	19	76	172	34
MT WASHINGTON OBS	.3	-6.6	-3.2	20.6	JUL 20	-34.4	DEC 12	7808	0	2975	127	FEB 24-25	1349	602	MAR 24	91	89	87	88	15.6			68.8	E	FEB 25	8.3	41	54	270	230	45	11	340	0	154	250	67
NEW JERSEY																																					
ATLANTIC CITY	17.3	6.4	11.9	35.6	JUL 19	-23.3	JAN 17	2864	566	977	61	JAN 9-10	211	74	JAN 16	77	77	54	67	4.6	1.7	26	19.7	26	MAR 31+	6.0	106	105	154	113	3	26	39	16	34	113	3
ATLANTIC CITY C	15.8	8.9	12.3	35.0	AUG 7	-15.6	JAN 17	2695	576	876	99	NOV 6-7											20.6	E	NOV 7					106				5	31	76	0
NEWARK	16.6	7.7	12.2	38.9	JUL 21	-18.9	JAN 17	2864	671	1218	183	NOV 7-8	508	114	JAN 14-15	73	75	56	62	4.2	1.6	28	15.6	31	FEB 5+	6.3	86	125	154	127	[illegible]	25	10	26	37	91	3
TRENTON	16.9	7.7	12.3	37.2	JUL 21	-20.0	JAN 17	2779	646	1300	74	NOV 7-8	432	152	JAN 14-15								19.2	[illegible]	JAN 28	6.0	97	114	154	123	5			19	34	44	2
NEW MEXICO																																					
ALBUQUERQUE	21.5	6.0	13.8	37.2	AUG 6+	-20.0	JAN 10	2356	742	201	19	OCT 6	373	104	JAN 8-9	35	27	46	59	4.2	0.2	27	21.9	NW	FEB 22	4.4	165	110	90	49	6	36	10	66	6	127	1
CLAYTON	20.5	4.7	12.6	36.7	JUL 10+	-20.0	JAN 9	2582	549	260	30	JUL 25-26	226	51	JAN 8-9	37			66											44	5			39	4	116	2
ROSWELL	25.7	9.7	17.7	41.7	JUN 17+	-16.1	JAN 9	1525	1349	278	100	AUG 11-12	43	23	MAR 5	36	27	47	59	4.2	0.9	19	26.8	SW	MAY 31	4.2	168	135	52	44		39	9	115	1	75	[illegible]
NEW YORK																																					
ALBANY	14.3	3.1	8.7	35.6	JUL 21+	-26.1	JAN 28	3768	319	1125	54	MAR 13-14	2167	295	FEB 20-21	79	80	58	67	4.3	1.5	26	19.7	NW	APR 8	6.9	64	111	190	140	25	28	13	4	54	144	12
BINGHAMTON	12.1	3.3	7.7	31.7	JUL 21+	-24.4	JAN 29	4051	241	1182	74	SEP 24-25	2461	226	NOV 25-26	77	80	64	68	4.9	2.1	26	21.0	W	AUG 5	7.1	55	105	205	175	26	36	45	0	73	131	13
BUFFALO	13.1	4.4	8.8	32.8	JUL 18	-21.7	JAN 29	3744	319	1360	60	AUG 6-7	4460	356	DEC 8-9	80	80	63	70	5.5	2.7	23	22.4	SW	JAN 28	7.5	45	98	222	197	55	37	17	4	66	122	6
NEW YORK C	16.4	8.3	12.4	40.0	JUL 21	-18.9	JAN 17	2795	702	1390	205	NOV 7-8	508	132	JAN 14-15	68	72	57	60	4.2	1.2	30	13.4	W	NOV 26					114	7	19		23	46	77	1
NEW YORK KENNEDY	15.2	7.3	11.3	35.0	JUL 19	-18.3	JAN 17	2994	492	1237	89	NOV 7-8	470	142	JAN 14-15	76	77	62	70	5.2	1.7	28	20.6	02	SEP 2	5.9	103	123	137	126	9	25	26	13	37	85	1
NEW YORK LA GUARDIA	15.9	8.2	12.1	37.2	JUL 21+	-18.3	JAN 17	2835	609	1241	113	NOV 7-8	442	122	JAN 14-15	68	70	55	60	5.1	1.6	29	24.1	NE	DEC 5+	6.0	99	116	150	122	7	24	10	14	37	77	1
ROCHESTER	14.1	4.0	9.1	35.0	JUL 20	-21.1	DEC 11+	3680	368	892	39	SEP 24-25	2756	287	DEC 5-6	85	85	66	73	5.0	2.4	25	21.9	SW	DEC 25	7.2	50	102	213	173	32	34	11	10	59	125	8
SYRACUSE	13.9	3.8	8.9	35.6	MAY 21	-25.6	JAN 18	3683	289	1134	46	OCT 16-17+	3670	239	DEC 5-6	79	80	61	68	4.5	1.6	25	19.7	SW	JAN 11	7.4	43	106	216	186	47	3[illegible]	8	10	55	125	5
NORTH CAROLINA																																					
ASHEVILLE	19.1	6.8	12.9	34.4	JUL 20+	-20.6	JAN 17	2451	559	1281	102	NOV 5-6	358	152	JAN 9	80	84	56	64	3.4	1.1	34	17.9	36	JAN 6	5.7	106	123	136	126	4	53	76	17	13	95	3
CAPE HATTERAS	21.1	12.9	17.0	34.4	JUL 21+	-10.6	JAN 17	1510	1098	1321	193	NOV 6-7	25	25	FEB 16	81	80	62	77	4.3	1.0	29	13.0	22	MAR 18	5.3	135	98	132	114	1	41	15	12	4	54	0
CHARLOTTE	21.6	10.1	15.8	37.8	JUL 21+	-15.0	JAN 17	1913	1063	1094	97	MAR 29-30	86	43	JAN 24	73	80	52	57	3.2	0.4	26	21.9	SW	MAR 18	5.8	102	114	149	11[illegible]	2	45	24	51	5	73	[illegible]

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
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State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am EST	7:00 am EST	1:00 pm EST	7:00 pm EST	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
NORTH CAROLINA	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
GREENSBORO	20.6	8.3	14.5	38.9	JUL 8	-18.9	JAN 17	2262	909	869	140	SEP 7-8	254	102	JAN 9	77	83	54	61	3.4	0.8	26	17.4	SE	AUG 23	5.7	112	110	143	107	4	45	38	54	6	86	1
RALEIGH	21.3	8.2	14.8	39.4	JUL 8	-18.3	JAN 17	2176	945	942	74	SEP 7-8	91	46	JAN 24	83	88	54	67	3.2	0.7	25	17.4	33	JUN 6	5.4	125	112	128	98	2	51	34	56	6	90	1
WILMINGTON	23.4	11.7	17.6	38.9	JUL 9+	-11.7	JAN 17	1500	1283	1314	99	NOV 5-6	23	15	JAN 31	86	86	58	74	3.4	0.6	26	16.5	SW	APR 5+	5.6	125	90	150	110	0	46	21	66	2	60	0
NORTH DAKOTA																																					
BISMARCK	12.3	-1.1	5.6	39.4	JUL 17	-40.6	JAN 9	4798	204	471	77	SEP 23-24	1336	211	NOV 19-20	73	79	54	52	3.7	0.7	31	20.1	NW	JUL 30+	6.3	94	110	161	106	17	36	8	10	83	175	47
FARGO	10.9	-.1	5.4	36.1	JUL 19+	-37.2	JAN 16	4938	271	820	104	MAY 4-5	1560	320	NOV 19-20	74	78	63	60	5.5	0.4	28	21.0	N	NOV 9	6.7	69	117	179	119	20	38	20	9	104	162	57
WILLISTON	12.3	-1.2	5.6	37.2	JUL 17	-38.3	DEC 9	4841	228	341	28	MAY 17	879	147	JAN 6-7	73	80	58	55	4.4	1.1	30	21.0	NE	MAR 29	6.6	69	121	175	106	12	29	12	13	76	180	53
OHIO																																					
AKRON	15.2	4.9	10.1	37.8	JUL 16	-27.8	JAN 17	3441	496	1015	53	JUN 28-29	1445	239	DEC 8-9	72	74	57	61	4.5	1.9	23	15.6	23	DEC 1	7.0	65	95	205	152	16	55	13	11	54	115	21
CINCINNATI ABBE OB	17.7	6.9	12.3	35.6	JUL 5	-26.1	JAN 18+	2915	790	997	52	JUN 25											14.8	W	MAR 4					119				28	49	103	18
CLEVELAND	14.9	4.3	9.6	34.4	JUL 15	-27.2	JAN 17	3523	391	917	48	JUN 30	1763	198	DEC 6	81	83	65	70	4.6	2.1	23	15.6	21	DEC 1+	7.2	63	85	217	168	25	42	13	7	56	117	25
COLUMBUS	16.2	5.2	10.7	35.6	JUL 6	-28.3	JAN 17	3302	596	917	59	AUG 7	886	114	JAN 14	71	73	56	59	4.0	1.4	22	21.0	SW	MAR 4	6.7	74	99	192	154	14	51	13	13	55	114	21
DAYTON U	16.7	5.4	11.1	36.7	JUL 15	-29.4	JAN 17	3261	666	903	79	APR 2	1097	150	JAN 9-10	76	79	60	65	4.6	1.9	24	20.1	W	MAR 4	6.8	72	95	198	134	14	39	26	25	52	118	23
MANSFIELD	14.3	4.2	9.2	35.0	JUL 19+	-28.9	JAN 17	3671	422	939	55	JUL 21	1504	180	DEC 8-9	80	82	64	70	5.2	2.5	23	17.9	22	DEC 1	6.9	77	86	202	136	19	42	23	9	62	124	25
TOLEDO	14.8	3.4	9.1	38.3	JUL 15	-26.1	JAN 17+	3726	436	985	87	APR 22-23	1836	236	DEC 5-6	81	83	61	67	4.2	1.6	25	18.8	W	JAN 28	6.6	81	105	179	144	19	46	17	19	68	128	23
YOUNGSTOWN	14.4	4.1	9.2	33.9	JUL 6	-26.1	JAN 17	3646	393	1111	52	AUG 6-7	1539	165	DEC 8-9	77	79	61	67	4.6	1.7	24	16.5	26	MAR 4	7.2	50	109	206	146	21	43	17	5	62	123	22
OKLAHOMA																																					
OKLAHOMA CITY	22.7	9.9	16.3	41.1	JUL 25	-19.4	JAN 10	1881	1202	776	59	MAY 19	81	66	JAN 8-9	70	78	52	51	5.5	1.7	17	23.7	SE	MAR 10	5.2	129	108	128	82	1	49	19	85	9	77	2
TULSA	22.6	10.4	16.5	41.7	JUL 25	-21.1	JAN 11	1903	1297	1053	70	JUN 28	274	147	JAN 8-9	72	80	55	54	4.7	1.7	18	21.9	SW	DEC 16	5.4	124	122	119	100	3	51	9	78	13	76	3
OREGON																																					
ASTORIA	14.4	6.1	10.3	31.1	AUG 10	-6.7	JAN 9	2906	10	1727	83	DEC 1-2	T		NOV 22	80	75	86	88	3.8	0.9	21	17.4	27	DEC 15	7.7	45	85	235	201	0	8	39	0	0	29	0
BURNS U	15.4	.7	8.1	36.1	AUG 12	-24.4	JAN 8	3941	251	264	26	NOV 21-22	1109	267	NOV 21-22	53			69				33.1	SW	DEC 15	5.9	107	99	159	77	12			24	25	184	9
EUGENE	17.4	4.7	11.1	38.9	AUG 12	-9.4	JAN 9	2729	139	1192	77	DEC 12-13+	5	5	NOV 21	75	59	83	89	3.3	0.7	22	14.3	22	DEC 15	7.6	55	75	235	140	0	3	53	14	1	68	0
MEDFORD	19.5	4.8	12.2	41.7	AUG 16	-10.6	JAN 9	2662	465	563	78	SEP 27-28	246	216	NOV 20-21	69	46	69	82	2.1	0.8	32	14.3	22	DEC 15	6.1	108	78	179	98	3	11	61	62	2	105	0
PENDLETON	16.6	5.1	10.8	40.0	AUG 17	-18.9	JAN 8	3081	403	350	38	AUG 29-30	610	203	NOV 22	57	48		72							6.7	76	101	188	91	5	3	24	40	42	83	3
PORTLAND	16.6	6.6	11.6	40.6	AUG 17	-8.3	JAN 8	2615	208	941	66	DEC 12-13	193	188	NOV 21-22	73	59	76	85	3.9	0.3	19	19.2	SW	DEC 15+	7.3	57	79	229	160	1	6	34	14	2	50	0
SALEM	17.4	4.8	11.1	40.6	AUG 17+	-10.6	JAN 9	2723	145	858	49	NOV 24-25	155	155	NOV 21-22	72	58	77	85	3.0	1.0	22	13.9	21	MAR 7+	7.1	70	82	213	146	1	7	32	19	0	73	[illegible]
SEXTON SUMMIT R	13.7	4.6	9.1	35.0	AUG 16	-8.3	NOV 20+	3474	162	745	58	SEP 27-28	2370	229	NOV 20-21	70	59						26.8	21	MAR 7					130	27			6	15	96	0
PACIFIC AREA																																					
GUAM TAGUAC R	29.6	22.2	25.9	32.2	AUG 1	13.3	JAN 29	0	2825	2218	156	OCT 19-20	0	0		76	89		77				14.8	NE	DEC 29	7.8	8	147	210	270	0			1	0	0	0
JOHNSTON	28.1	24.2	26.2	30.6	OCT 17+	18.3	APR 3	0	2912	806	119	NOV 8-9	0	0		79	72	78	80	7.5	6.7	9	18.3	E	AUG 26+	5.3	113	164	88	173	0	3	0	0	0	0	[illegible]
KOROR R	31.1	24.6	27.8	32.8	DEC 6+	22.2	SEP 29	0	3511	3034	105	JUL 6	0	0		76	86		80	3.6	1.0	6	11.2	SW	NOV 12+	8.8	2	66	297	253	0	26	0	70	0	0	0
KWAJALEIN	30.4	25.4	27.9	33.3	OCT 24	22.8	JUN 14+	0	3540	2288	95	MAR 13-14	0	0		82	73	76	81	5.6	4.7	7	14.3	12	JUL 10	7.9	23	99	243	204	0	14	0	5	0	0	0
MAJURO	30.1	24.4	27.3	32.2	OCT 4+	21.1	DEC 18	0	3306	3100	198	DEC 16-17	0	0		83	76	79	82	4.8	4.1	7	13.4	N	SEP 18	8.9	3	73	289	237	0			8	0	0	0
PAGO PAGO	29.6	24.2	26.9	33.3	FEB 20	17.8	JUL 27	0	3191	2484	146	NOV 21-22	0	0		84	73	80	84	5.1	3.4	11	18.8	NW	FEB 22	7.8	10	137	218	206	0	27	0	11	0	0	0
PONAPE R	31.2	23.8	27.5	33.9	SEP 26+	18.9	DEC 8	0	3396	4130	225	APR 23-24	0	0		77	87		75				11.6	E	MAR 28+	8.7	1	77	287	287	0	16	0	103	0	0	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max temp.		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am EST	7:00 am EST	1:00 pm EST	7:00 pm EST	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0 C and below	0 C and below	-17.8 C and below
PACIFIC AREA	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m s	m s		m s			Tenths											
TRUK MOEN ISLAND	30.6	24.7	27.7	32.8	SEP 29+	21.7	SEP 18	0	3455	2949	133	JAN 17-18	0	0		77	84		77	4.4	2.5	6	14.8	W	OCT 27	9.7	1	14	350	252	0	4	0	24	0	0	0
WAKE	29.6	23.3	26.5	33.3	SEP 27	18.3	MAR 16	0	3029	1150	109	AUG 8-9	0	0		[illegible]7	72	77	86	6.8	5.6	7	16.5	NE	FEB 21	5.1	135	143	87	194	0	7	0	44	0	0	0
YAP R	30.7	23.6	27.2	32.8	APR 22	21.1	AUG 5+	0	3275	2644	199	SEP 2-3	0	0		74	85		77	3.8	1.9	8	20.6	SW	SEP 3	8.3	9	103	253	242	0	12	0	13	0	0	0
PENNSYLVANIA																																					
ALLENTOWN	16.2	5.9	11.1	35.6	JUL 21+	-20.6	JAN 17	3139	548	1260	64	MAR 22-23	709	117	FEB 20	75	77	57	63	4.0	1.7	28	20.6	27	JAN 28	6.3	80	126	159	133	8	44	17	18	42	106	3
ERIE	12.9	4.1	8.5	32.2	JUL 18	-23.3	JAN 29+	3775	250	1567	76	AUG 5-6	2819	251	DEC 9-10	84	85	73	76	5.2	2.5	22	17.4	26	JAN 28	6.9	70	92	203	171	32	42	8	1	63	124	8
HARRISBURG	16.4	6.6	11.5	35.0	JUL 19+	-19.4	JAN 17	3015	585	1008	52	MAR 12-13	607	91	JAN 6-7	73		57	60	3.7	1.5	29	18.8	NW	NOV 26	6.1	93	123	149	122	8	30	12	19	41	106	3
PHILADELPHIA	17.6	7.2	12.4	37.8	JUL 21	-20.0	JAN 17	2802	687	1255	101	NOV 7	414	112	JAN 14	75	76	56	63	4.4	1.6	29	21.9	NW	AUG 6	6.1	92	115	158	119	6	35	1[illegible]	26	34	99	3
PITTSBURGH	15.0	4.2	9.6	32.8	JUL 20+	-27.2	JAN 17	3471	346	843	38	APR 2	1207	142	DEC 8-9	74	77	56	60	4.1	1.8	26	16.1	26	FEB 25	7.0	56	116	193	168	17	42	9	3	50	116	16
PITTSBURGH C	16.4	6.4	11.4	35.0	JUL 16	-25.6	JAN 17	3074	616	829	50	APR 2	810	102	DEC 8-9															140	12			15	45	98	7
SCRANTON	13.9	4.1	9.0	32.8	JUL 21+	-23.3	JAN 17	3645	314	1085	45	OCT 16-17	1595	226	FEB 20-21	78	82	64	65	3.8	1.2	26	21.0	SE	JAN 28	6.8	70	109	185	148	14	42	25	5	57	121	7
WILLIAMSPORT	15.9	5.0	10.4	33.3	AUG 28+	-27.2	JAN 18	3292	479	1199	69	APR 23-24	1410	173	MAR 18	76	78	55	60	3.5	1.2	30	17.9	28	APR 5	6.6	60	127	169	139	19	39	25	15	40	110	11
RHODE ISLAND																																					
BLOCK ISLAND	13.2	6.9	10.1	31.1	JUL 19	-16.1	JAN 18	3209	273	1078	51	APR 4-5	424	150	FEB 5-6															123	5			[illegible]	41	98	0
PROVIDENCE	15.6	5.7	10.7	37.8	JUL 21+	-18.9	JAN 18	3185	456	1241	56	OCT 8-9 +	1067	203	JAN 7	75	75	55	66	4.6	1.7	28	14.8	26	NOV 27+	6.0	110	95	160	124	10	22	21	14	36	110	1
SOUTH CAROLINA																																					
CHARLESTON	24.4	12.6	18.6	38.3	JUL 22+	-8.3	FEB 8+	1295	1436	1047	60	MAR 4-5	33	15	JAN 31	82	83	52	68	3.8	0.8	23	14.3	28	MAR 22	5.6	112	117	136	105	0	55	15	78	1	53	0
CHARLESTON C	23.6	14.9	19.3	39.4	JUL 22	-6.7	JAN 19+	1152	1553		57	SEP 4-5	20	18	JAN 31																0			7[illegible]	[illegible]	30	0
COLUMBIA	24.1	10.2	17.2	40.6	JUL 8	-12.8	JAN 17	1570	1211	995	95	OCT 25-26	T	T	JAN 31 +	79	84	47	60	2.9	0.5	25	16.5	18	AUG 9	5.6	106	132	127	97	0	56	25	54	0	69	0
GRNVLLE-SPRTNBRG	21.9	10.4	16.1	38.3	JUL 21	-12.8	JAN 17	1848	1088	1331	115	OCT 25-26	175	91	JAN 24	74	79	53	60	3.0	0.4	27	14.8	N	APR 5	5.4	131	108	126	123	3	44	40	57	6	70	0
SOUTH DAKOTA																																					
ABERDEEN	12.9	0.3	6.7	40.6	JUL 18	-35.0	JAN 9	4531	322	606	39	SEP 23	1504	262	FEB 23-24	76	82	61	59	5.2	0.6	33	19.7	36	MAR 12+	6.1	99	117	150	100	18	40	23	18	90	153	45
HURON	14.4	1.3	7.9	40.6	JUL 14	-31.7	JAN 16	4194	442	588	66	MAR 11-12	940	206	FEB 23-24	77	82	59	59	5.1	0.3	27	21.5	SW	SEP 8	6.1	56	111	158	96	10	46	13	28	71	152	42
RAPID CITY	15.3	1.6	8.5	40.6	JUL 18	-27.2	JAN 16	3867	319	493	54	SEP 22-23	1572	274	MAR 29-30	52	51	70	74	5.6	1.9	34	28.2	NW	JAN 7	5.8	92	139	134	111	19	55	15	19	49	153	25
SIOUX FALLS	14.1	2.3	8.2	38.3	JUL 5+	-33.3	JAN 16	4171	474	803	82	AUG 15-16	904	279	MAR 2-3	73	78	61	58	5.2	0.3	25	20.6	35	NOV 9+	6.0	103	101	161	107	8	57	28	19	78	146	37
TENNESSEE																																					
BRISTOL	19.0	6.8	12.9	35.0	JUL 20+	-21.7	JAN 17	2576	676	990	68	APR 3-4	445	102	JAN 24-25	78	83	56	61	2.5	0.9	26	19.3	25	APR 5	6.2	84	116	163	143	7	53	48	19	29	101	3
CHATTANOOGA	21.8	9.8	15.8	40.0	JUL 8	-18.9	JAN 17	2018	1144	1640	168	SEP 6-7	94	64	JAN 24	[illegible]2	87	56	61	2.7	[illegible].4	27	14.8	29	MAY 18	5.8	104	106	155	124	1	72	30	79	9	77	1
KNOXVILLE	20.9	9.7	15.3	36.1	JUL 15	-18.3	JAN 17	2040	1006	1294	93	APR 3-4	224	117	JAN 24	80	85	58	62	3.0	0.9	28	16.1	22	MAR 18	6.0	97	110	159	131	3	65	32	44	13	69	1
MEMPHIS	23.1	12.4	17.8	37.8	JUL 15+	-13.3	JAN 17+	1642	1490	1046	67	SEP 24	89	38	JAN 6	69	75	53	55	3.7	0.8	20	17.9	02	JAN 6+	5.7	126	86	153	96	1	52	16	100	8	55	0
NASHVILLE	21.1	9.4	15.2	37.2	JUL 17+	-20.6	JAN 17	2185	1116	1288	77	MAR 3-4	472	135	JAN 24	78	82	56	59	3.7	1.0	23	15.6	30	JAN 24+	5.8	103	112	150	116	5	60	16	67	17	78	3
OAK RIDGE	19.7	6.9	13.3	35.0	JUL 16+	-22.2	JAN 17	2455	698	1594	158	APR 3-4	246	89	JAN 24								21.0		DEC 5	5.6	125	101	139	134	4			29	19	99	1
TEXAS																																					
ABILENE	25.1	11.6	18.3	40.6	SEP 26	-13.3	JAN 9	1397	1461	413	57	MAR 26-27	99	69	JAN 8-9	62	72	48	43	5.5	2.6	18	18.8	W	FEB 23	4.8	154	94	117	57	2	43	6	111	3	52	0
AMARILLO	22.1	7.7	14.9	37.8	JUN 17+	-18.3	JAN 9	2136	945	487	41	JUL 26-27	295	119	JAN 8-9	58	68	43	40	6.2	2.2	21	25.9	34	MAR 11	4.9	145	112	109	67	5	50	24	73	6	106	2
AUSTIN	26.2	14.6	20.4	38.3	AUG 24	-7.2	JAN 10	945	1745	542	56	APR 15	T	T	FEB 1	73	83	54	51	3.9	1.2	17	17.0	NE	SEP 19	5.4	115	129	121	76	0	29	26	119	0	23	0
BROWNSVILLE	28.7	18.0	23.3	37.8	AUG 2	-1.1	JAN 19+	341	2235	668	132	APR 16	0	0		86	89	59	67	4.8	2.5	14	20.1	SE	JAN 21	5.8	108	115	142	66	0	26	35	134	0	3	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
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State and station	Temperature							Heating degree days	Cooling degree days	Precipitation						Relative humidity				Wind						Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes									Snow †										Fastest mile (1.6 kilometers)				Sunrise to sunset							Max. temp		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date			Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am E S T	7:00 am E S T	1:00 p.m. E.S.T	7:00 p.m. E.S.T	Average speed	Resultant speed	Resultant direction	Speed	Direction	Date		Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow † 25.4mm or more	Thunderstorms	Heavy fog	32.2 C and above	0° C and below	0° C and below	-17.8 C and below
	C	C	C	C		C		Base 18.3 C	Base 18.3 C	mm	mm		mm	mm		%	%	%	%	m/s	m/s		m/s			Tenths											
TEXAS																																					
CORPUS CHRISTI	28.1	16.9	22.5	39.4	SEP 5	-5.0	DEC 22	521	2097	667	106	APR 30	0	0		88	91	62	68	5.4	2.6	12	15.6	18	FEB 25	5.8	99	137	129	79	0	22	27	128	0	5	0
DALLAS FT WORTH	25.3	12.7	19.0	42.2	JUL 24	-12.2	JAN 31	1382	1676	691	112	MAR 26-27	137	102	JAN 30	71	80	54	51	4.1	1.6	19	16.1	19	FEB 22	5.1	135	109	121	68	2	36	15	127	3	40	0
DEL RIO	27.7	14.6	21.2	40.6	SEP 25+	-6.7	JAN 10	777	1866	416	58	OCT 2-3	0	0		64	79	52	42	4.6	2.9	11	14.8	30	FEB 26	5.3	133	100	132	53	0	37	14	128	0	14	0
EL PASO	25.8	9.5	17.7	41.7	JUN 17	-8.9	DEC 21	1434	1245	140	25	OCT 3-4	T	T	APR 3 +	31	25	42	55	3.6	0.9	25	21.5	30	MAR 10+	4.1	172	120	73	47	0	45	2	123	0	66	0
GALVESTON	23.3	19.2	20.8	33.3	SEP 3+	-6.1	JAN 10	694	1656	1069	129	APR 19-20	0	0		81	83	73	76				15.2	NE	DEC 9+					94	0			11	0	6	0
HOUSTON INTERCON	26.1	13.3	19.7	37.8	AUG 3	-7.8	JAN 19+	966	1528	887	74	APR 19-20	0	0		87	90	58	63	3.3	0.9	13	14.8	11	JUL 15	5.7	110	114	141	96	0	57	37	110	0	29	0
LUBBOCK	24.0	9.1	16.6	40.6	JUN 17	-17.8	JAN 10	1708	1126	410	43	AUG 22	94	43	FEB 25-26	57	68	42	35	4.7	1.6	19	20.6	26	MAR 17	4.3	175	94	96	58	2	52	14	97	4	77	1
MIDLAND	26.6	10.8	18.7	41.1	AUG 23+	-13.3	JAN 10	1345	1536	174	23	APR 13-14	18	18	JAN 8	55	67	36	30	5.8	2.2	16	21.0	26	DEC 16	4.1	175	110	80	44	0	45	16	131	1	50	0
PORT ARTHUR	26.3	15.5	20.9	37.2	AUG 3+	-8.3	JAN 10	816	1827	1242	151	NOV 29-30	0	0			86	59	68	4.1	1.1	14	17.4	NW	NOV 29	5.9	98	123	144	102	0	57	40	121	0	20	0
SAN ANGELO	26.4	12.7	19.6	41.1	SEP 26	-8.9	JAN 10+	1161	1653	329	55	APR 14-15	T		JAN 2	61	73	45	39	4.3	1.8	16	20.1	27	FEB 23	4.9	149	101	115	49	0	33	3	123	2	47	0
SAN ANTONIO	26.0	14.3	20.2	37.2	SEP 5	-6.7	DEC 22+	929	1661	753	124	APR 19-20	0	0		77	84	56	52	4.5	1.5	13	18.8	18	SEP 13	5.8	91	142	132	77	0	37	30	110	0	27	0
VICTORIA	26.8	15.7	21.2	37.2	AUG 3	-6.7	JAN 10	709	1824	996	236	JUN 15	0	0		84	88	58	63	4.3	1.5	12	26.8	W	OCT 22	5.9	96	125	144	94	0	48	41	112	0	12	0
WACO	26.7	14.1	20.4	41.1	SEP 27	-11.7	JAN 10	1101	1918	679	77	FEB 10-11	46	46	JAN 30	73	83	54	51	4.6	1.9	16	15.6	25	FEB 23	5.4	131	93	141	70	1	36	7	130	2	36	0
WICHITA FALLS	25.0	10.6	17.8	42.2	SEP 30	-18.3	JAN 10	1610	1469	532	72	AUG 31-1	150	127	JAN 8-9	72	81	50	49	5.4	2.0	17	20.6	22	MAY 5	4.8	155	88	122	71	2	50	16	114	7	65	1
UTAH																																					
MILFORD	19.5	.3	9.9	37.8	AUG 2	-24.4	NOV 20	3419	401	186	29	MAY 13-14	549	185	MAR 24-25								21.9	SW	MAY 6	4.7	155	111	99	64	7			65	6	184	4
SALT LAKE CITY	18.4	5.1	11.8	38.3	AUG 2	-18.9	JAN 9	2964	616	449	26	AUG 26-27+	1930	282	MAR 1-2	45	40	61	66	4.2	1.0	18	18.8	N	MAR 27	5.9	107	101	157	96	21	40	12	57	15	118	1
VERMONT																																					
BURLINGTON	12.2	2.6	7.4	37.2	JUL 20	-28.9	JAN 18	4196	282	1027	75	AUG 16-17	2301	249	NOV 26-27	77	79	63	66	3.8	0.8	22	18.3	S	APR 11	7.7	33	104	228	163	25	23	9	12	74	141	18
VIRGINIA																																					
LYNCHBURG	19.3	7.3	13.3	37.2	JUL 8	-22.2	JAN 17	2491	730	983	66	OCT 25-26	287	117	JAN 9		80	51					21.5	N	AUG 11	5.4	126	113	126	116	4			31	25	88	3
NORFOLK	20.9	10.9	15.9	38.9	AUG 7	-15.0	JAN 17	1901	1072	1112	84	NOV 6-7	155	48	JAN 16	74	75	53	64	4.7	0.8	26	20.6	30	JUN 6	5.5	125	104	136	112	4	34	10	48	12	65	0
RICHMOND	21.6	8.3	14.9	40.6	JUL 6	-18.3	JAN 17	2192	1008	1120	110	OCT 26	282	97	JAN 6-7	80	84	51	65	3.2	0.6	26	17.0	NW	NOV 17	5.8	103	118	144	108	5	35	23	70	12	88	2
ROANOKE	19.7	7.4	13.6	38.9	JUL 20+	-20.0	JAN 17	2494	813	796	67	APR 4	335	107	JAN 9	74	77	51	58	4.0	1.5	29	21.5	27	APR 5	5.9	104	111	150	115	5	37	15	55	26	89	2
WALLOPS ISLAND	17.3	9.4	13.3	38.3	JUL 21	-15.0	JAN 17	2494	731	977	131	DEC 18-19	173	58	JAN 6-7			69					27.3	W	MAR 22					107	3			23	24	81	0
WASHINGTON																																					
OLYMPIA	15.7	3.7	9.7	36.7	AUG 17	-11.7	NOV 21	3157	61	1294	65	DEC 1-2	203	94	NOV 22-23	77	65	85	92	3.1	1.6	20	14.3	20	FEB 10	7.6	43	93	229	166	3	6	101	7	3	92	0
QUILLAYUTE	13.9	4.4	9.2	33.3	AUG 10	-8.3	JAN 9	3306	9	2511	106	DEC 1-2	114	46	DEC 8-9	81	74	90	93	2.7	0.6	19	20.6	SE	FEB 10	7.7	50	68	247	203	2	8	53	1	0	72	0
SEATTLE	15.2	7.3	11.3	33.9	AUG 12	-6.7	NOV 21	2616	97	974	49	AUG 25-26	33	25	JAN 2								22.8	S	DEC 13					149	1			2	0	28	0
SEATTLE-TACOMA	15.8	7.4	11.7	35.6	AUG 17+	-6.1	NOV 21	2519	129	834	40	DEC 9-10	137	48	NOV 22-23	70	60	71	79	3.8	1.0	21	17.4	SW	NOV 1	7.2	53	98	214	147	3	5	43	6	0	28	0
SPOKANE	13.8	2.8	8.3	37.8	AUG 18	-22.8	DEC 31	3875	262	395	29	JUN 7-8	1359	198	DEC 29	63	51	67	77	4.1	1.7	20	18.8	W	DEC 3	7.0	65	94	206	106	13	7	30	23	54	142	3
STAMPEDE PASS R	7.8	.8	4.3	31.7	AUG 17	-16.7	NOV 21+	5115	56	2644	201	DEC 1-2	1102	513	DEC 3-4	75	72		83											213	83			0	74	176	0
WALLA WALLA U	17.3	6.9	12.2	40.6	AUG 17	-16.1	JAN 7+	2759	543	377	40	AUG 29-30	706	170	NOV 22								17.0	SW	NOV 1	6.7	76	93	196	104	8			44	41	65	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Daily minimum	Annual	Extremes: Highest	Date	Lowest	Date	Heating degree days	Cooling degree days	Precipitation: Total	Greatest in 24 hours	Date (s)	Snow †: Total	Greatest in 24 hours	Date (s)	Relative humidity: 1 00 am E S T	7 00 am E S T	1 00 pm E S T	7 00 pm E S T	Wind: Average speed	Resultant speed	Resultant direction	Fastest mile (1 6 kilometers): Speed	Direction	Date	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0 3	Partly cloudy, 0 4-0 7	Cloudy, 0 8-1 0	Precipitation 25mm or more	Snow † 25 4mm or more	Thunderstorms	Heavy fog	Max temp. 32 2 C and above	0 C and below	Min. temp 0 C and below	-17 8 C and below
	C	C	C	C		C		Base 18 3°C	Base 18 3°C.	mm	mm		mm	mm		%	%	%	%	m s	m s		m s			Tenths											
WASHINGTON																																					
YAKIMA	17.1	2.9	10.1	39.4	AUG 18+	-16.1	DEC 31+	3325	355	201	40	DEC 12-13	340	89	DEC 29-30	54	43		74				19.2	21	NOV 1	6.4	84	104	177	68	5	4	8	44	34	150	[illegible]
WEST INDIES																																					
SAN JUAN P.R.	30.1	23.3	26.7	34.4	APR 17	18.9	FEB 2+	0	3095	1341	106	NOV 24-25	0	0		80	76	64	75	4.1	3.2	9	15.2	NE	APR 20	5.9	50	221	94	177	0	38	0	23	0	0	0
WEST VIRGINIA																																					
BECKLEY	15.6	5.2	10.4	31.7	JUL 20+	-27.8	JAN 17	3159	337	1053	96	APR 3-4	1775	150	FEB 20-21	82	84	62	70	4.5	1.8	23	25.9	27	MAR 18	7.1	61	104	200	156	24	56	34	0	41	153	16
CHARLESTON	18.2	6.8	12.5	35.6	JUL 20+	-23.3	JAN 17	2754	682	1006	63	APR 3-4	1158	147	FEB 19-20	74	79	55	58	2.7	1.3	24	14.8	26	APR 5	6.7	73	112	180	150	22	[illegible]	86	19	40	96	8
ELKINS	16.4	2.7	9.6	32.2	JUL 18	-30.0	FEB 8	3419	269	965	48	JUN 8-9	1864	157	JAN 25-26		83	59	70							7.3	48	104	213	167	25			1	43	139	18
HUNTINGTON	18.6	7.4	13.0	37.2	JUL 20	-25.0	JAN 17	2641	763	1005	53	OCT 1	897	145	JAN 5	72	77	57	57	3.1	1.1	24	13.4	32	AUG 7+	7.2	57	96	212	134	12	47	[illegible]	25	38	88	6
PARKERSBURG U	17.7	6.6	12.2	35.0	JUL 18	-25.0	JAN 17	2869	675	814	73	JUN 25	749	135	NOV 27								19.7	[illegible]	MAR 18					127	12			22	46	101	9
WISCONSIN																																					
GREEN BAY	12.4	1.3	6.9	37.2	JUL 14	-32.8	JAN 9	4415	297	714	32	AUG 9	2060	259	APR 4-5	77	81	62	65	4.8	1.3	25	24.1	SW	MAR 29	6.6	73	115	177	140	22	35	27	3	[illegible]	147	43
LA CROSSE	13.3	2.8	8.1	39.3	JUL 14	-32.8	JAN 9	4116	431	776			1293			78	83	61	62	3.4	0.6	22								128	17	41	14	15	79	138	49
MADISON	13.7	1.3	7.6	38.9	JUL 14	-30.0	JAN 9	4220	346	826	89	JUL 17-18	1382	178	DEC 8	82	85	61	65	4.3	1.3	24	[illegible]	[illegible]	JUL 16	6.5	83	111	171	129	16	45	25	17	75	146	43
MILWAUKEE	12.4	3.3	7.9	35.6	JUL 14	-27.8	JAN 16	4048	313	929	71	JUL 17-18	1844	269	NOV 24-25	80	82	67	70	5.1	1.6	26	20.1	SW	MAR 29	6.5	80	113	172	149	20	40	32	8	72	132	25
WYOMING																																					
CASPER	15.9	.3	8.1	37.2	JUL 17	-30.6	DEC 9	3960	273	254	38	JUL 23-24+	2311	267	NOV 18-19	42	38	60	66	5.5	2.6	25	19.7	36	MAR 10	5.7	98	132	135	93	26	40	7	25	40	174	17
CHEYENNE	15.0	.8	7.9	33.9	JUL 17	-24.4	JAN 9	3880	140	347	42	JUL 24-25	851	208	MAR 10-11	36	39	55	60	5.7	2.8	27	25.9	[illegible]	DEC 2	5.7	103	125	137	83	9	54	17	3	29	160	9
LANDER	15.1	.1	7.6	35.0	JUL 17	-26.7	JAN 9	4099	228	310	54	JUL 24-25	2682	391	MAR 25	45	39	55	61	3.1	1.1	24	22.4	SW	MAR 8	5.4	121	131	113	63	24	37	1	14	35	177	18
SHERIDAN	14.8	-.7	7.1	40.0	JUL 17	-32.8	DEC 9	4234	176	444	33	MAY 14-15	2672	269	MAR 29-30	51	52	70	76	3.8	1.7	30	22.8	[illegible]	NOV 26	6.3	84	121	160	112	32	51	5	13	47	177	26

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day - data may include precipitation with a measurable amount from the last day of the previous month or the first day of the following month.

Wind directions under resultant direction are in tens of degrees.

Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed when the direction is in tens of degrees. These stations are not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

Data in this table are obtained by conversion from data in the English Units table.

† Includes all forms of frozen precipitation, except hail [illegible]

+ And also on an earlier date or dates

# Number of days maximum 21.1°C or above for Alaskan stations

‡ Peak gust

§ Sun below horizon November [illegible] to January [illegible], inclusive

¶ Sun below horizon November 21 to January 21, inclusive

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C) Normal (1941-1970) January Daily Maximum	January Daily Minimum	July Daily Maximum	July Daily Minimum	Annual	Extremes Length (Yrs)	Record Highest	Record Lowest	Normal Heating Degree Days (1941-1970) January	Seasonal	Precipitation (Millimeters) Normal (1941-1970) Wettest Month	Driest Month	Annual	Extremes Wettest Month	Driest Month	Maximum In 24 Hours	Snow @ Mean Total January	Seasonal	Ex-treme Maximum In 24 Hours	Relative Humidity (Percent) January 7 00 a.m. EST	January 1 00 p.m. EST	January 7 00 p.m. EST	July 7 00 a.m. EST	July 1 00 p.m. EST	July 7 00 p.m. EST	Wind Speed (m.p.s.) Mean Speed January	Mean Speed July	Fastest Mile (1.6 Kilometers)	Sunshine (% of Possible) January	Sunshine July	Annual Mean Number of Days Sunrise to Sunset Clear	Partly Cloudy	Cloudy	Precipitation 25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	Temperature Max ≥ 32.2 C	Min ≤ 0°C	Min ≤ -17.8 C
ALABAMA							94	44.4	-32.8							0	516																								
BIRMINGHAM	189	12.4	1.2	32.4	20.8	16.9	34	41.1	-20.0	363	1580	157	66	1352	449	T	179	13	30	213	81	63	66	89	62	66	3.8	2.5	29.1	42	59	99	111	155	118	*	59	9	42	61	*
HUNTSVILLE	190	10.3	-0.4	32.3	20.4	16.0	10	38.3	-18.3	415	1834	147	65	1325	375	20	196	33	64	91	83	68	71	88	60	65	4.2	2.7	20.6			108	99	158	121	1	59	22	41	65	*
MOBILE	64	16.2	5.2	32.5	22.6	19.7	36	40.0	-13.3	251	935	225	65	1701	490	1	339	5	13	91	82	63	70	89	60	71	4.8	3.1	28.2			100	118	147	124	*	80	39	81	20	0
MONTGOMERY	59	14.4	2.8	32.5	21.9	18.2	33	40.6	-15.0	309	1260	153	57	1266	542	1	224	8	10	79	82	62	65	90	61	67	3.5	2.6	32.2	48	63	107	110	148	109	*	62	23	69	41	0
ALASKA							94	37.8	-62.2							0	359																								
ANCHORAGE	35	-6.7	-15.8	18.7	10.1	1.7	24	29.4	-36.7	916	6061	60	14	374	138	T	52	274	1783	450	71	72	71	80	74	61	2.6	3.2	27.3	42	45	64	66	235	113	21	1	27	13	191	40
ANNETTE	34	3.3	-1.7	17.8	10.9	7.6	30	32.2	-17.2	543	3918	453	128	2903	886	14	193	396	1501	361	78	78	74	87	77	69	5.4	3.6	26.8			41	59	265	224	17	1	15	23	82	0
BARROW X	9	-22.2	-29.6	6.8	0.6	-12.6	57	25.6	-48.9	1373	11257	26	4	124	71	0	25	56	726	381	66	67	67	94	91	87	5.1	5.2	25.9			59	52	188	76	7	*	65	*	323	170
BARTER ISLAND V	12	-22.5	-29.9	7.5	1.4	-12.2	28	25.6	-50.6	1381	11107	33	6	179	125	T	57	132	1110	432	69	69	69	93	89	86	6.6	4.7	36.2			52	69	192	90	13	*	76	*	313	158
BETHEL	38	-10.9	-19.0	16.6	8.6	-1.8	19	30.0	-43.3	1032	7334	101	11	402	148	1	51	135	1255	208	76	76	75	92	85	66	6.3	5.0	27.7			65	59	241	137	17	2	57	12	228	81
BETTLES	196	-20.7	-29.5	20.1	8.6	-5.9	27	33.3	-56.7	1347	8846	70	16	360	150	0	49	297	1946	551	72	66	67	83	67	51	2.6	3.0	17.9			86	93	186	105	26	5	8	36	246	139
BIG DELTA	386	-16.4	-24.6	20.4	10.0	-2.5	36	33.3	-52.8	1204	7609	69	7	291	157	T	54	150	1029	254	70	71	71	79	73	58	4.8	2.7	33.1			60	91	214	91	15	3	10	36	224	98
COLD BAY	29	0.3	-4.6	12.4	7.6	3.3	33	25.6	-25.0	634	5480	109	39	844	253	1	124	224	1430	290	85	85	82	91	89	80	8.0	7.0	32.6			12	47	306	213	19	*	25	*	163	2
FAIRBANKS	133	-19.0	-29.8	22.1	9.8	-3.5	26	35.6	-52.2	1324	7969	56	8	285	157	T	87	262	1748	511	68	68	68	78	68	50	1.3	2.9	17.9			69	84	212	102	22	5	21	53	223	122
GULKANA	479	-16.7	-26.9	20.1	7.6	-2.9	32	32.8	-53.9	1245	7743	47	6	282	110	0	52	178	1184	305	67	68	64	84	70	48	2.3	3.7	23.2			68	88	209	87	17	5	18	30	238	107
HOMER	19	-2.2	-9.6	15.6	6.9	2.5	34	26.7	-29.4	751	5757	86	23	586	218	0	77	264	1527	622	77	77	72	92	78	69	3.5	30.2	17.9			68	68	229	143	24	*	9	2	195	13
ILIAMNA 1969	57						27	32.8	-43.9						280	T	67	277	1636	399	73	74	72	87	79	64	6.6	3.7				81	68	216	137	22	0	12	10	195	45
JUNEAU	4	-1.6	-7.9	17.6	8.7	4.6	34	32.2	-30.0	715	5003	199	74	1389	387	7	118	650	2748	787	80	79	76	90	81	70	3.8	3.4	25.9	32	31	44	39	282	221	30	*	22	17	149	10
KING SALMON	15	-6.1	-14.6	16.9	8.0	0.7	35	31.1	-43.3	889	6434	88	23	502	185	0	51	183	1171	241	72	73	71	86	80	63	4.7	4.5	31.7			55	65	245	151	16	1	35	10	206	58
KODIAK	4	1.4	-3.2	15.1	9.5	4.8	29	30.0	-24.4	596	4922	160	90	1440	401	5	113	480	2344	452	80	79	76	88	82	78	5.5	3.1	24.6			63	73	229	189	26	*	16	6	146	2
KOTZEBUE	3	-16.0	-23.7	14.8	8.4	-6.2	35	29.4	-46.7	1183	8910	57	7	223	132	T	45	152	1199	254	71	71	71	87	84	77	6.5	5.8	41.6			93	72	200	107	16	1	19	[illegible]	252	171
MC GRATH	105	-17.5	-27.9	19.8	9.3	-3.8	35	32.2	-55.0	1273	8048	83	17	425	159	T	65	353	2273	386	70	69	69	85	74	55	1.3	2.6	33.5			67	70	228	133	28	7	14	31	231	115
NOME	4	-10.3	-18.7	13.2	6.9	-3.6	31	30.0	-43.3	1016	7958	91	19	418	199	T	76	234	1384	229	72	71	71	81	76	71	5.2	4.5	24.6	40	35	90	65	210	125	17	*	24	7	248	91
ST. PAUL ISLAND	7	-1.1	-5.6	9.7	5.6	1.4	60	17.8	-32.2	670	6177	87	28	623	237	2	69	318	1494	351	86	86	85	96	96	90	9.3	5.8	36.7			21	62	282	204	19	*	57	0	193	6
SHEMYA 1972	37	1.3	-1.7	9.3	6.3	3.5	27	17.2	-13.9	575	5408	84	39	716	221	4	134	290	1448	389	82	82	82	95	96	92	9.6	6.1	40.2			5	52	298	212	19	*	82	0	129	0
SUMMIT 1976	731	-13.4	-20.4	15.7	6.6	-3.6	35	31.7	-42.8	1092	7981	84	17	510	171	T	71	361	3053	711	68	68	69	89	78	62	6.8	3.5	21.5			68	70	227	138	41	5	12	9	251	86
TALKEETNA	105	-7.2	-18.0	19.7	9.0	0.4	38	32.8	-44.4	958	6504	124	28	727	303	T	79	457	2703	914	68	71	62	89	75	60	2.8	1.7	17.0			78	76	211	131	35	4	4	32	228	48
UNALAKLEET	5	-12.1	-19.7	15.8	8.6	-3.1	28	30.6	-45.6	1061	7792	99	10	360	205	T	39	130	1013	356	60	68	68	87	79	72	8.0	4.8	25.0			86	62	217	107	12	2	15	7	236	83
VALDEZ	11	-3.9	-11.9	16.2	7.5	1.2	6	27.2	-28.9	813	5858	197	69	1506	523	T		1481	7577		92	83	83	91	80	69			19.7						177	55			1	178	5
YAKUTAT	9	-0.4	-8.3	15.2	8.6	3.8	31	30.0	-31.1	703	5296	496	144	3364	1115	13	198	1072	5834	823	80	80	77	97	85	79	3.4	3.1	33.5			40	47	278	231	52	2	31	4	181	18
ARIZONA							83	52.8	-40.0							0	290																								
FLAGSTAFF	2135	5.2	-9.8	27.1	10.2	7.4	28	36.1	-30.0	639	4067	67	14	490	250	0	87	396	2250	693	73	51	48	70	34	40	3.4	2.8	20.6	75	75	169	97	99	76	21	51	11	3	213	9
PHOENIX	339	18.2	3.1	40.4	25.3	21.3	40	47.8	-8.3	238	862	31	3	179	141	0	78	T	T	15	66	43	30	46	28	20	2.3	3.2	38.4	78	85	213	83	69	34	0	23	2	165	12	0
TUCSON	788	17.5	3.4	36.8	23.4	19.9	37	43.9	-8.9	246	973	67	4	281	201	0	100	5	36	173	62	39	32	58	33	29	3.5	3.7	31.7	81	78	198	90	77	50	1	40	1	139	20	0
WINSLOW	1492	7.6	-6.9	34.2	17.2	12.9	46	42.8	-27.8	558	2629	38	7	186	142	0	56	64	282	432	78	62	50	58	30	27	3.2	4.0	28.2			179	96	90	53	4	36	5	73	142	5
YUMA	59	19.7	6.3	41.1	27.4	23.2	27	48.3	-4.4	171	558	11	0	68	75	0	69	0	T	T	55	38	27	50	32	22	3.3	4.2	26.8	84	89	247	68	50	15	0	7	1	166	2	0
ARKANSAS							87	48.9	-33.9							0	305																								
FORT SMITH	136	9.9	-2.2	34.3	21.4	16.3	32	43.9	-23.3	448	1853	139	60	1074	356	T	181	51	145	188	80	59	61	88	54	52	3.6	2.8	25.9	49	71	125	93	147	96	3	57	15	67	80	*
LITTLE ROCK	78	10.1	-1.7	33.7	21.2	16.1	36	42.2	-20.6	439	1863	135	76	1232	367	T	202	56	130	287	81	61	65	87	58	61	3.9	3.1	29.1	46	71	119	101	145	104	2	57	16	70	63	*
TEXARKANA 1968	119	12.7	1.8	34.1	22.2	17.9	3	38.3	-12.8	348	1407	135	69	1249	423	T	166	38	69	191	79	62	62	90	60	62	3.7	2.8				126	95	144	98	1	62	18	64	44	0
CALIFORNIA							93	56.7	-42.8							0	663																								
BAKERSFIELD	145	14.2	3.0	37.3	20.4	18.3	40	46.1	-6.7	302	1214	26	T	145	117	0	43	T	T	38	83	75	60	48	32	20	2.3	3.2	20.6			201	81	83	36	*	3	22	110	11	0
BISHOP	1252	12.0	-6.4	36.4	13.2	13.3	30	42.8	-21.7	481	2396	36	2	145	227	0	92	97	218	457		48	34		19	14			33.5			202	89	74	29	2	13	*	95	143	*
BLUE CANYON M	1609	6.1	-1.2	25.3	14.8	10.1	34	35.0	-16.1	493	3169	347	3	1717	1146	0	237	1176	6015	978	46	58	48	38	32	27	4.4	3.1	34.0			175	64	126	89	40	12	68	1	101	0
EUREKA U	13	11.9	5.1	15.8	11.2	11.2	67	29.4	-6.1	305	2599	188	4	1010	421	0	148	5	5	76							3.1	3.0	25.0	42	52	78	99	188	117	*	5	49	0	5	0
FRESNO	100	12.7	2.1	36.8	17.2	16.8	26	43.9	-7.2	339	1472	47	0	260	217	0	66	T	T	38	91	85	67	64	39	23	2.4	3.2	19.2	51	96	200	71	94	43	*	5	40	107	28	0
LONG BEACH	8	18.4	6.2	28.2	16.4	17.4	25	43.9	-3.9	188	892	57	0	260	285	0	174	T	T	T	73	57	50	81	61	53	2.5	3.0	19.7			155	123	87	30	0	4	53	22	1	0
LOS ANGELES	30	17.5	7.4	23.8	16.7	16.5	42	43.3	-5.0	184	1010	64	T	294	281	0	157	T	T	T	69	54	59	86	68	68	3.0	3.4	27.7			144	113	108	35	0	4	44	5	*	0
LOS ANGELES U	82	19.2	8.2	28.3	17.5	18.2	37	43.3	-2.2	149	692	76	0	357	379	0	155	T	T	8	63	51	50	84	54	53	3.0	2.4	21.9	69	82	183	108	74	34	0	6	17	20	*	0
MT SHASTA R	1077	5.4	-3.7	29.4	10.3	9.8	35	39.4	-20.6	541	3272	169	8	952	447	0	177	836	2797	950	79	74	68	67	39	29	2.2	2.1				163	85	117	90	21	13	7	21	136	*
OAKLAND	2	12.5	5.9	20.9	13.6	14.1	49	41.7	-5.0	282	1616	102	T	475	287	0	138	T	T	25	83	77	71	87	76	67	3.0	4.2	21.9			147	113	105	63	*	2	16	2	1	0
RED BLUFF	104	12.0	2.6	36.7	19.2	17.1	33	48.3	-6.7	341	1493	114	1	560	289	0	102	33	61	251	81	72	59	50	30	18	4.0	3.6	30.4	54	96	175	71	119	69	1	10	18	98	22	0
SACRAMENTO	5	11.7	2.8	33.8	14.2	15.7	27	46.1	-6.7	343	1579	95	T	437	321	0	142	T	T	51	89	85	69	76	47	28	3.4	4.1	31.3	47	97	192	72	101	57	*	5	35	76	17	0
SANDBERG R	1377	8.0	1.1	29.5	17.2	12.8	43	38.9	-16.1	427	2459	67	1	304	289	0	174	229	724	978	51	56	52	42	26	28	7.6	5.7	34.4			208	79	78	40	7	4	79	20	59	0

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C) Normal (1941-1970) January Daily Maximum	Temperature Normal January Daily Minimum	Temperature Normal July Daily Maximum	Temperature Normal July Daily Minimum	Temperature Normal Annual	Temperature Extremes Length (Yrs)	Temperature Extremes Record Highest	Temperature Extremes Record Lowest	Normal Heating Degree Days (1941-1970) January	Normal Heating Degree Days Seasonal	Precipitation (Millimeters) Normal (1941-1970) Wettest Month	Precipitation Normal Driest Month	Precipitation Normal Annual	Precipitation Extremes Wettest Month	Precipitation Extremes Driest Month	Precipitation Extremes Maximum In 24 Hours	Snow @ Mean Total January	Snow @ Mean Total Seasonal	Snow @ Extreme Maximum In 24 Hours	Relative Humidity (Percent) January 7 00 a.m. EST	Relative Humidity January 1 00 p.m. EST	Relative Humidity January 7 00 p.m. EST	Relative Humidity July 7 00 a.m. EST	Relative Humidity July 1 00 p.m. EST	Relative Humidity July 7 00 p.m. EST	Wind Speed (m.p.s.) Mean Speed January	Wind Speed Mean Speed July	Wind Speed Fastest Mile (1.6 Kilometers)	Sunshine (% of Possible) January	Sunshine July	Annual Mean Number of Days Sunrise to Sunset Clear	Sunrise to Sunset Partly Cloudy	Sunrise to Sunset Cloudy	Precipitation 25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	Temperature Max ≥ 32.2 °C	Temperature Min ≤ 0 °C	Temperature Min ≤ -17.8 °C
CALIFORNIA																																									
SAN DIEGO	4	18.1	7.7	24.1	17.7	17.2	37	43.9	-1.7	174	837	48	T	240	193	0	78	T	T	T	68	53	54	81	69	66	2.5	3.2	22.8	72	67	151	115	99	41	0	3	27	3	*	0
SAN FRANCISCO	2	12.9	5.1	21.6	12.2	13.8	50	41.1	-6.7	288	1690	111	T	496	312	0	116	T	T	38	86	78	66	87	66	60	3.2	6.0	25.9			162	103	100	62	*	2	17	4	3	0
SAN FRANCISCO U C	16	13.3	7.6	17.7	11.8	13.7	41	38.3	-1.1	243	1711	119	T	525	291	0	93	T	T	T	81	72	63	92	73	74	3.0	5.0	21.0	56	66				67	0	2		1	*	0
SANTA CATALINA 1968	478	15.4	8.6	25.5	15.2	16.1	5	39.4	1.1	196	1140	80	1	365	190	0	107	0	T	T												173	94	96	42	0	4	158	15	0	0
SANTA MARIA	72	17.1	3.5	22.1	11.3	13.8	35	40.0	-6.7	250	1696	61	1	311	246	0	80	T	T	T	81	62	59	88	63	61	3.0	2.9				176	110	79	45	0	2	87	5	24	0
STOCKTON	7	11.6	2.4	34.8	14.8	15.9	18	45.6	-7.2	351	1559	74	T	360	204	0	76	0	T	8	90	87	69	65	41	26	3.0	3.7	20.6			186	75	104	52	0	3	43	86	24	0
COLORADO							90	47.8	-51.1							0	281																								
ALAMOSA	2297	1.7	-18.2	27.8	8.8	5.3	32	33.9	-45.6	823	4782	30	6	176	89	T	46	112	899	401	77	60	59	84	39	37	2.4	3.8				148	137	80	67	12	44	15	1	227	49
COLORADO SPRINGS	1873	5.0	-8.8	29.1	13.9	9.1	29	37.8	-32.8	627	3596	79	7	400	203	T	95	112	998	457	57	41	46	70	38	42	4.4	4.3	26.8			129	120	116	87	11	60	20	15	161	7
DENVER	1610	6.4	-8.8	30.8	14.8	10.1	43	40.0	-34.4	604	3342	67	11	394	186	T	90	203	1499	493	63	44	47	70	36	26	4.1	3.8	25.0	72	71	115	132	118	88	18	41	10	32	162	9
GRAND JUNCTION	1476	2.6	-8.6	33.9	17.9	11.5	31	40.6	-30.6	661	3114	27	12	214	88	0	40	191	668	231	77	66	62	47	28	21	2.5	4.2	29.5	60	77	140	108	117	70	9	34	8	66	139	7
PUEBLO	1428	7.5	-9.6	32.8	16.4	11.6	37	40.6	-35.0	601	2996	50	7	303	157	T	96	135	785	427	66	48	45	72	38	44	3.6	3.9	35.8	75	78	138	123	104	69	9	40	8	63	153	8
CONNECTICUT							90	40.6	-35.6							0	308																								
BRIDGEPORT	2	2.7	-4.8	27.5	18.9	11.1	29	39.4	-20.6	599	3034	97	65	981	450	2	175	185	681	424	72	61	65	77	60	69	5.8	4.4	30.0			100	107	158	118	8	22	29	6	102	*
HARTFORD	52	0.8	-8.8	28.9	16.2	9.5	23	38.9	-32.2	692	3527	110	77	1102	555	9	308	302	1346	381	71	57	62	79	51	62	4.2	3.5	23.7	58	62	76	115	174	129	14	22	32	21	136	6
NEW HAVEN 1969	2	2.8	-5.6	26.9	17.3	10.1	25	37.8	-22.2	609	3276	117	81	1169	278	3	141	236	942	437	76	63		81	66		3.7	2.8	25.5	55	68	100	109	156	128	11	27	28	3	113	1
DELAWARE							85	43.3	-27.2							0	216																								
WILMINGTON	23	4.6	-4.6	29.7	18.9	12.2	30	38.9	-20.0	568	2744	109	66	1022	307	4	158	145	505	396	75	60	69	80	54	66	4.4	3.4	25.9			96	106	163	116	6	31	38	19	102	*
DIST.OF COLUMBIA																																									
WASHINGTON DULLES	88	5.1	-5.0	30.2	17.8	12.1	15	39.4	-22.2	567	2783	108	66	1019	462	T	302	140	554	391	79	59	68	87	55	68	3.7	2.8	20.6			96	105	164	114	6	27	35	25	118	2
WASHINGTON NATIONAL	3	6.4	-2.4	31.2	20.6	14.1	36	39.4	-17.2	506	2339	119	62	988	363	T	183	119	414	366	68	54	59	75	52	60	4.5	3.6	34.9	49	63	104	102	159	111	5	29	12	37	75	0
FLORIDA							88	42.8	-18.9							0	983																								
APPALACHICOLA U	6	16.2	7.9	30.8	24.0	20.3	48	38.9	-10.6	204	756	229	68	1453	573	T	297	T	T	30	86	68	79	85	71	76	3.8	3.0	30.0	59	64	132	121	112	106	*	70	28	20	5	0
DAYTONA BEACH	9	20.6	8.7	32.0	22.4	21.4	34	38.9	-6.1	134	498	180	50	1276	505	T	236	T	T	T	86	60	78	88	65	78	4.1	3.4	25.9			92	137	136	115	0	80	31	54	5	0
FORT MYERS	5	23.7	11.3	32.8	23.2	23.3	38	38.3	-3.3	71	254	226	33	1370	511	0	276	0	0	0	89	58	73	88	60	75	3.8	3.0	41.1			104	159	102	113	0	95	22	101	1	0
JACKSONVILLE	8	18.1	6.9	32.2	22.2	20.2	36	40.6	-11.1	193	737	200	45	1384	492	T	258	T	T	38	87	57	74	87	58	75	3.8	3.4	36.7	57	60	99	128	138	116	*	64	36	82	13	0
KEY WEST INTL AP	1	24.2	18.8	31.8	26.7	25.7	25	35.0	7.8	9	36	186	39	1016	548	0	226	0	0	0	82	69	77	76	66	71	5.4	4.4	37.6	72	77	100	163	102	111	0	63	1	42	0	0
LAKELAND U	65	21.4	10.6	32.4	22.6	22.3	37	38.3	-6.7	104	377	205	41	1256	398	0	257	T	T	25							3.3	2.5		62	61	100	159	106	120	*	100	19	83	2	0
MIAMI INTL AP	2	24.2	14.8	31.7	24.2	24.2	35	36.7	-0.6	29	114	229	42	1519	620	T	294	0	0	0	84	60	69	86	65	72	4.2	3.5	33.1	60	79	75	171	119	129	0	74	7	31	*	0
ORLANDO	29	21.4	10.0	32.1	22.7	22.1	35	38.9	-6.7	109	407	211	40	1301	497	T	246	T	T	T	88	57	69	89	59	74	4.0	3.4	28.6			92	149	124	116	0	81	29	104	3	0
PENSACOLA 1/	34	16.2	6.1	32.1	23.3	20.0	14	37.8	-12.2	237	877	207	80	1631	407	0	255	5	8	48	81	64	73	88	63	71	4.0	3.0	16.5	48	57	101	119	145	115	*	74	36	53	16	0
TALLAHASSEE	17	17.9	5.0	32.6	22.0	19.8	17	37.8	-12.2	227	868	227	71	1564	511	T	241	T	T	10	87	60	73	93	61	74	3.4	2.5	25.9			96	136	133	119	0	86	53	88	37	0
TAMPA	6	21.4	10.1	32.3	23.2	22.3	31	36.7	-7.8	113	399	214	45	1254	523	T	308	T	T	5	86	59	73	86	62	71	4.0	3.4	30.0	65	61	98	139	128	107	0	88	24	82	4	0
WEST PALM BEACH	5	23.9	13.3	32.0	23.4	23.6	41	38.3	-2.8	46	166	250	56	1576	631	1	387	T	T	T	82	59	73	84	64	75	4.4	3.4	38.4			73	155	137	131	0	79	8	54	1	0
GEORGIA							86	44.4	-27.2							0	457																								
ATHENS	244	11.8	0.8	31.9	20.4	16.4	34	40.6	-18.3	372	1653	149	69	1285	380	T	252	18	43	127	81	59	65	91	60	70	3.8	2.8	23.2			112	106	147	111	1	52	39	48	53	*
ATLANTA	308	10.8	0.8	30.3	20.8	16.0	29	39.4	-19.4	389	1719	148	64	1228	399	T	144	18	38	211	79	60	64	90	63	70	4.7	3.3	31.3	48	62	108	111	146	116	1	50	30	20	60	*
AUGUSTA	41	14.2	1.1	32.7	21.1	17.4	27	41.1	-15.0	334	1415	129	55	1083	290	T	152	5	23	348	83	55	68	89	57	70	3.1	2.6	27.7			108	106	151	107	*	56	28	60	59	0
COLUMBUS	117	14.3	2.2	32.7	21.3	17.9	32	40.0	-16.1	317	1321	153	50	1294	336	0	173	T	10	356	85	60	71	89	59	70	3.4	2.5	24.6			115	98	152	112	*	59	20	73	46	0
MACON	108	14.8	2.7	33.4	21.5	18.4	29	41.1	-16.1	302	1244	131	59	1129	299	0	136	8	25	419	83	59	65	90	58	68	3.7	3.1	31.3	54	64	112	105	148	112	*	57	26	77	50	0
ROME	194	11.2	-1.1	32.4	19.5	15.7	30	41.1	-20.6	412	1856	157	74	1336	441	T	191	18	51	208	81	58	73	88	54	67						105	117	143	123	1	61	26	59	81	*
SAVANNAH	14	16.2	3.7	32.7	21.8	18.8	27	40.0	-12.8	268	1084	200	49	1299	511	1	179	T	10	91	84	55	68	90	60	74	3.8	3.3	29.5	54	63	105	111	149	112	*	64	40	57	36	0
HAWAII							73	37.8	-7.8							0	965																								
HILO	8	26.4	17.1	28.3	19.7	23.0	31	34.4	11.7	0	0	400	168	3393	1291	9	399	0	0	0	84	79	67	88	81	67	3.3	3.1	13.4	45	42	31	126	208	282	0	9	0	1	0	0
HONOLULU	2	26.3	18.5	30.4	23.0	24.8	8	33.3	11.7	0	0	112	8	582	528	T	434	0	0	0	81	81	63	69	65	51	4.4	6.1	30.0	63	73	90	173	102	102	0	7	0	13	0	0
KAHULUI	15	26.4	17.7	30.2	21.1	24.0	13	35.6	8.9	0	0	91	5	468	347	0	148	0	0	0	85	85	64	80	71	54	5.0	7.1	19.2	66	75	124	148	93	95	0	5	0	23	0	0
LIHUE	31	25.5	18.0	28.9	22.6	23.9	27	32.2	10.0	0	0	161	40	1122	582	8	293	0	0	0	83	83	68	80	75	65	4.6	5.8	32.6	51	62	51	177	137	202	0	9	0	*	0	0
IDAHO							85	47.8	-51.1							0	182																								
BOISE	865	2.5	-5.9	32.5	14.7	10.5	38	43.9	-30.6	620	3240	37	4	292	102	0	57	191	546	330	80	74	71	53	33	22	3.8	3.8	27.3	41	88	124	90	151	91	8	15	19	43	124	2
LEWISTON	431	3.3	-4.2	31.8	14.2	10.9	31	46.1	-30.0	582	3035	46	13	336	122	T	44	180	455	325	81	76	72	60	37	23			32.2			93	76	196	103	6	16	21	39	94	2
POCATELLO	1358	0.2	-10.0	31.6	12.3	8.2	28	40.0	-34.4	720	3923	33	9	274	101	0	46	251	1016	257	75	71	67	61	33	23	5.0	4.1	32.2	37	83	109	99	157	93	13	23	16	33	172	10

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C)								Normal Heating Degree Days (1941-1970)		Precipitation (Millimeters)									Relative Humidity (Percent)						Wind Speed (m.p.s.)			Sunshine (% of Possible)		Annual Mean Number of Days									
		Normal (1941-1970)					Extremes					Normal (1941-1970)			Extremes			Snow @			January			July			Mean Speed					Sunrise to Sunset							Temperature		
		January		July														Mean Total		Ex-treme																			Max	Min	
		Daily Maximum	Daily Minimum	Daily Maximum	Daily Minimum	Annual	Length (Yrs)	Record Highest	Record Lowest	January	Seasonal	Wettest Month	Driest Month	Annual	Wettest Month	Driest Month	Maximum In 24 Hours	January	Seasonal	Maximum In 24 Hours	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	January	July	Fastest Mile (1.6 Kilometers)	January	July	Clear	Partly Cloudy	Cloudy	Precipitation .25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	≥ 32.2°C	≤ 0°C	≤ -17.8°C
ILLINOIS							88	47.2	-37.2							0	420																								
CAIRO U	96	6.5	-1.8	32.1	22.0	15.2	35	40.0	-20.6	494	2129	132	68	1197	380	T	192	76	239	267	80	67		84	59		4.4	2.9	28.2	45	75	114	104	147	115	3	53	7	47	65	*
CHICAGO O HARE	201	-0.5	-9.6	28.4	15.9	9.4	19	37.2	-28.9	725	3609	105	33	806	291	3	117	241	950	460	76	68	71	81	57	57	5.2	3.6	25.9			85	108	172	125	11	38	16	16	130	13
CHICAGO MIDWAY	185	-0.3	-8.3	29.1	18.3	10.3	35	40.0	-28.3	701	3404	104	40	875	360	5	158	251	1044	503	72	65	68	77	54	55	5.1	3.8	26.8	44	70	94	102	169	123	13	41	12	22	119	8
MOLINE	177	-1.1	-10.6	29.6	17.7	9.9	45	41.1	-32.2	749	3552	114	33	909	360	T	160	196	770	417	72	65	68	84	56	58	4.8	3.4	34.4	49	71	101	102	162	112	10	47	19	22	135	17
PEORIA	199	-0.1	-9.1	29.7	18.1	10.4	36	39.4	-31.7	709	3387	111	39	891	332	1	129	152	617	259	78	68	72	86	58	59	5.0	3.6	33.5	46	69	98	99	168	112	8	49	21	17	131	12
ROCKFORD	221	-1.7	-11.4	29.0	16.3	8.9	27	39.4	-30.0	772	3802	112	33	933	300	T	141	201	866	277	77	69	73	85	55	56	4.6	3.6	24.1			96	100	169	115	11	42	23	13	142	18
SPRINGFIELD	179	1.6	-7.4	30.3	18.7	11.5	30	44.4	-30.0	659	3087	106	44	890	252	4	130	140	587	277	78	69	72	83	55	57	5.8	3.8	33.5	47	73	107	94	164	113	8	50	18	28	118	9
INDIANA							91	46.7	-37.2							0	309																								
EVANSVILLE	116	5.3	-4.6	31.6	19.3	13.3	37	40.6	-30.6	558	2569	119	64	1064	343	T	154	94	340	269	77	66	68	84	57	58	4.2	2.8	26.4	43	76	103	100	162	115	4	46	14	39	102	4
FORT WAYNE	241	0.3	-7.8	28.7	16.9	9.9	31	39.4	-28.3	684	3449	99	52	909	247	4	117	173	800	345	79	71	75	83	54	57	5.2	3.7	29.1	43	73	79	102	184	131	10	41	19	14	133	11
INDIANAPOLIS	241	2.2	-6.8	29.7	18.1	11.3	36	40.0	-28.9	639	3098	104	60	984	322	4	120	132	549	318	81	69	72	87	60	62	5.0	3.4	40.2	42	70	92	99	174	123	8	45	20	16	121	8
SOUTH BEND	236	-0.3	-8.6	28.2	16.5	9.5	38	38.3	-30.0	706	3590	102	49	919	248	1	119	419	1740	445	80	73	75	84	57	59	5.4	3.7	28.2			73	104	188	142	23	43	24	11	124	7
IOWA							105	47.8	-43.9							0	424																								
BURLINGTON	211	-0.2	-9.9	30.1	18.1	10.4	80	43.9	-32.8	725	3416	120	32	880	384	2	160	183	653	330	79	69	73	85	58	60	5.1	3.5	23.2	53	77	101	105	159	104	9	51	18	31	128	11
DES MOINES	286	-2.5	-11.5	29.4	18.5	9.4	38	40.6	-31.1	785	3727	124	27	784	360	1	157	216	841	503	76	69	70	81	56	55	5.3	4.0	34.0	51	72	104	96	165	106	10	50	17	22	136	17
DUBUQUE	322	-3.3	-12.6	27.8	16.3	8.1	27	37.2	-33.3	814	4042	134	32	1023	393	T	225	211	1082	394	73	66	73	83	59	64						91	99	175	114	14	45	28	7	148	23
SIOUX CITY	334	-2.1	-13.5	30.4	17.7	9.1	37	41.7	-32.2	809	3862	117	17	654	262	T	140	160	777	290	77	69	71	85	58	55	5.0	4.1	40.7	58	76	107	103	155	98	10	45	19	24	149	23
WATERLOO	265	-3.5	-13.9	28.7	16.4	8.0	29	39.4	-36.7	839	4119	127	23	857	320	T	236	163	792	376	75	68	72	86	58	59	5.1	3.9	24.1			91	105	169	98	9	42	22	14	160	29
KANSAS							91	49.4	-40.0							0	320																								
CONCORDIA	448	2.7	-9.0	32.1	18.9	11.7	16	42.2	-27.2	665	3124	127	17	701	359	T	139	127	551	335	82	67	70	81	51	47	5.4	5.2	30.4	64	80	134	94	137	89	7	59	17	47	129	8
DODGE CITY	787	5.9	-7.2	33.0	19.4	12.7	35	41.7	-26.1	589	2803	85	13	523	232	T	116	102	462	325	76	57	58	75	44	39	6.1	5.8	34.9	68	79	137	105	123	77	6	53	23	64	125	4
GOODLAND	1114	5.3	-10.2	32.5	16.1	10.3	57	43.9	-32.2	644	3399	74	9	423	205	0	98	137	853	386	77	56	60	82	45	40	5.5	5.4	29.5			142	122	101	76	11	49	28	45	158	8
TOPEKA	267	3.5	-7.9	31.8	19.6	12.4	31	42.8	-28.9	637	2912	147	25	880	386	T	140	145	528	386	77	65	67	85	58	56	4.6	4.0	36.2	55	69	112	97	156	95	7	58	14	38	122	6
WICHITA	403	5.2	-6.0	33.2	20.9	13.7	25	45.0	-24.4	580	2604	114	22	777	266	T	126	107	384	343	79	63	65	78	49	45	5.5	5.0	29.5	60	74	128	96	141	84	4	55	17	64	113	2
KENTUCKY							89	45.6	-36.7							0	264																								
COVINGTON	265	4.3	-5.3	30.3	18.1	12.2	16	38.9	-31.7	584	2816	105	55	992	309	5	132	173	607	249	78	67	69	85	57	61	4.8	3.2	20.6			79	100	186	129	7	44	26	21	109	6
LEXINGTON	294	5.2	-4.2	30.2	18.8	12.9	33	39.4	-29.4	553	2627	123	54	1130	423	6	149	142	404	241	78	67	69	85	59	64	5.1	3.3	20.6			94	103	168	131	5	47	19	16	96	3
LOUISVILLE	145	5.6	-4.2	30.7	19.1	13.1	30	40.6	-28.9	546	2578	128	60	1095	379	6	177	137	447	330	77	64	64	86	58	60	4.3	3.0	27.3	42	66	93	104	168	125	5	45	9	25	92	2
LOUISIANA							87	45.6	-26.7							0	559																								
ALEXANDRIA 1977	28	14.8	2.6	33.0	21.3	18.3	17	40.0	-15.0	304	1222	142	83	1373	332	2	157	10	18	185	88	67	73	96	60	68	3.3	2.2	20.6			110	109	146	106	*	69	39	75	43	0
BATON ROUGE	20	16.4	4.7	32.9	22.6	19.7	27	39.4	-12.2	251	928	165	67	1373	369	2	307	T	5	46	85	65	67	91	62	70	4.2	2.7	25.9			100	118	147	108	*	70	37	82	24	0
LAKE CHARLES	3	16.4	6.1	32.9	23.1	20.2	13	37.2	-7.8	231	832	164	88	1409	507	T	358	8	8	102	88	70	77	93	64	72	4.6	2.9	25.9			96	121	148	97	*	77	48	69	13	0
NEW ORLEANS INTL AP	1	16.8	6.4	32.4	22.9	20.2	31	37.8	-10.0	224	814	171	57	1442	485	0	250	T	5	69	86	67	73	91	66	73	4.2	2.8	30.8	47	58	109	120	136	114	*	69	30	66	13	0
SHREVEPORT	77	13.7	3.2	34.2	22.7	18.8	25	41.7	-16.1	307	1204	132	68	1136	315	0	182	18	36	137	83	63	65	90	57	57	4.4	3.3	23.2	50	73	117	102	146	97	*	54	27	88	35	0
MAINE							90	40.6	-44.4							0	204																								
CARIBOU	190	-6.8	-16.9	24.2	12.3	3.8	38	35.6	-40.6	935	5351	101	52	910	215	3	158	584	2868	462	73	67	72	82	58	70	5.5	4.4				57	101	207	160	31	20	27	2	189	44
PORTLAND	13	-0.4	-11.3	26.2	13.8	7.2	37	39.4	-39.4	749	4165	123	66	1036	312	7	196	460	1892	579	77	62	70	80	60	75	4.1	3.4	34.0	56	64	107	97	161	127	18	18	52	5	160	15
MARYLAND							82	42.8	-40.0							0	375																								
BALTIMORE INTL AP	45	5.5	-3.9	30.4	19.2	12.8	27	38.9	-21.7	544	2627	107	71	1028	466	T	199	130	538	394	72	58	62	81	53	64	4.4	3.6	35.8	52	65	107	108	150	112	7	28	29	31	99	*
MASSACHUSETTS							90	41.7	-36.7							0	461																								
BLUE HILL OBS R	192	0.9	-7.4	26.9	16.5	9.3	92	38.3	-29.4	668	3519	129	75	1189	477	2	252	391	1532	716	76	62	68	81	58	74	7.8	5.8	41.1	46	57				135	16			5	132	4
BOSTON	5	2.2	-5.3	27.4	18.4	10.7	26	38.9	-24.4	617	3122	115	70	1080	434	9	213	310	1069	493	66	57	61	73	56	66	6.3	4.8	27.3	54	66	99	105	161	128	11	19	23	12	98	1
NANTUCKET 1969	13	3.5	-3.7	23.7	16.2	9.7	4	32.2	-16.7	572	3294	110	59	1101	328	T	166	221	884	511	79	67	75	87	76	91	6.6	4.9	32.6	42	60	86	93	186	125	8	20	98	1	108	0
PITTSFIELD 1968	357	-0.8	-10.5	26.2	13.6	7.2	29	35.0	-31.7	744	4210	124	64	1128	262	11	108	483	1981	432												57	127	181	152	24	28		3	163	14
WORCESTER	301	-0.6	-8.8	26.3	16.0	8.4	22	35.6	-28.3	713	3804	119	81	1149	334	17	122	417	1885	610	74	59	66	74	57	67	5.5	3.8	34.0			91	106	168	129	18	21	64	3	147	7
MICHIGAN							91	44.4	-46.1							0	248																								
ALPENA	210	-2.8	-12.9	26.1	11.1	5.6	19	36.7	-33.3	813	4732	89	34	701	213	4	81	528	2156	409	78	69	73	83	53	60	3.7	3.0	19.7	39	68	72	106	187	146	26	33	26	6	183	25
DETROIT CITY AP	189	-0.2	-7.1	28.4	17.4	9.9	43	40.6	-26.7	680	3460	87	46	786	204	3	94	201	805	254	78	68	73	74	51	54	5.2	3.8	20.6	32	70	80	108	177	131	11	32	11	15	124	2
DETROIT METRO. AP	193	-0.1	-8.2	28.6	16.2	9.5	19	38.9	-27.8	695	3566	87	44	805	199	4	94	218	1013	488	79	70	74	82	52	57	5.3	3.9	38.9	39	69	76	108	181	134	13	33	22	14	138	7
DETROIT W R 1968	217	0.8	-6.8	30.0	16.9	10.0	7	37.2	-25.0	661	3476	88	49	779	221	6	121	183	831	221	78	70	72	82	49	52	5.4	3.9	26.8			78	107	180	125	12	33	29	15	143	7
FLINT	235	-1.2	-9.7	27.3	14.6	8.2	21	37.2	-31.7	735	3911	87	40	756	280	2	153	282	1151	503	77	69	72	82	55	58	5.3	3.7	36.2			67	107	191	132	14	33	18	6	138	9

State and Station	Elevation Ground (Meters)	Temperature (°C) Normal (1941-1970) January Daily Maximum	January Daily Minimum	July Daily Maximum	July Daily Minimum	Annual	Extremes Length (Yrs)	Record Highest	Record Lowest	Normal Heating Degree Days (1941-1970) January	Seasonal	Precipitation (Millimeters) Normal (1941-1970) Wettest Month	Driest Month	Annual	Extremes Wettest Month	Driest Month	Maximum In 24 Hours	Snow Mean Total January	Seasonal	Extreme Maximum In 24 Hours	Relative Humidity (Percent) January 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (m p s) Mean Speed January	July	Fastest Mile (1.6 Kilometers)	Sunshine (% of Possible) January	July	Annual Mean Number of Days Sunrise to Sunset Clear	Partly Cloudy	Cloudy	Precipitation 25mm or More	Snow Sleet Hail 25.4mm or More	Thunderstorms	Heavy Fog	Temperature Max ≥ 32.2 C	Min ≤ 0 C	Min ≤ -17.8 C
MICHIGAN																																									
GRAND RAPIDS	239	-0.9	-8.9	28.5	15.3	8.8	14	37.8	-28.3	720	3778	87	38	823	209	4	83	531	1946	384	81	72	77	82	54	56	5.2	3.8	29.5	33	66	65	97	203	145	25	37	27	14	149	9
HOUGHTON LAKE	350	-3.4	-12.8	26.0	12.0	5.9	13	35.6	-32.8	820	4637	89	30	721	182	8	66	480	2113	297	83	73	78	85	55	58	4.6	3.4	17.9			69	100	196	147	28	39	32	4	175	24
LANSING	256	-1.2	-9.3	28.1	15.1	8.6	19	37.8	-31.7	730	3835	88	41	772	249	4	110	295	1237	518	82	74	78	84	55	59	5.5	3.7	28.2	26	71	75	105	185	140	16	34	23	14	150	12
MARQUETTE	206	-4.0	-11.1	24.1	14.1	5.9	41	40.0	-29.4	803	4639	89	39	783	259	5	118	544	2725	409	75	68	72	76	63	66	4.0	3.2	26.4	35	67	61	101	203	158	32	28	17	5	160	11
MUSKEGON	191	-1.1	-7.9	26.9	15.3	8.5	36	37.2	-26.1	706	3827	89	45	801	251	3	94	767	2436	511	80	75	77	83	58	59	5.7	3.9	20.6			78	90	197	144	31	38	23	3	140	5
SAULT STE MARIE	220	-5.6	-14.2	23.9	11.4	4.4	37	36.7	-34.4	875	5107	98	38	805	241	4	150	678	2814	363	82	76	81	88	62	67	4.5	3.7	26.8	35	63	66	90	209	165	36	29	44	1	179	29
MINNESOTA							91	45.6	-50.6							0	275																								
DULUTH	435	-8.0	-18.1	24.7	12.6	3.7	36	36.1	-39.4	973	5419	113	22	767	262	3	103	434	1976	645	75	69	69	84	58	59	5.4	4.4	33.5	49	67	77	102	186	135	22	35	54	2	185	51
INTERNATIONAL FALLS	359	-10.7	-22.8	25.7	11.9	2.5	38	36.7	-43.3	1087	5859	101	18	652	286	3	124	292	1527	450	73	68	69	87	56	[illegible]	4.1	3.6	23.2			82	101	182	133	18	31	15	4	198	49
MINNEAPOLIS	254	-6.0	-16.0	28.0	16.3	6.7	39	40.0	-36.7	909	4532	100	19	659	236	T	187	234	1171	411	73	67	68	81	54	53	4.6	4.2	41.1	50	71	98	103	164	114	14	37	11	15	158	35
ROCHESTER	395	-5.6	-15.6	27.1	15.3	6.4	16	38.9	-35.6	897	4570	119	17	698	212	1	83	224	1128	287	77	73	75	84	59	[illegible]	6.4	[illegible]	23.7			88	100	177	116	13	41	34	7	163	36
ST CLOUD	313	-7.1	-18.6	27.7	14.8	5.4	38	39.4	-41.7	966	4926	118	19	682	237	T	117	218	1095	368	75	68	71	87	54	55	3.7	3.1				96	101	168	108	14	36	20	11	177	46
MISSISSIPPI							89	46.1	-28.3							0	398																								
JACKSON	94	14.7	2.1	33.7	21.4	18.3	14	39.4	-14.4	316	1278	143	56	1249	384	0	178	13	30	135	87	65	71	93	59	66	4.0	2.7	20.1	49	62	111	106	148	112	*	66	25	73	48	0
MERIDIAN	89	14.7	1.9	33.6	21.1	18.1	32	40.0	-17.8	319	1327	159	55	1310	427	0	207	13	36	381	85	61	70	91	58	66	3.1	2.1	17.9			111	112	142	104	*	59	26	75	54	0
MISSOURI							90	47.8	-40.0							0	462																								
COLUMBIA MUNI 1969	237	4.1	-5.9	32.1	19.8	12.8	30	45.0	-27.8	598	2803	119	43	939	338	2	111	112	493	262	79	63	[illegible]	88	55	56	5.0	3.6	28.2	[illegible]	74	116	96	153	97	6	55	14	40	109	4
COLUMBIA REGIONAL	270	3.3	-6.3	30.8	19.5	12.4	8	39.4	-27.8	615	2821	119	40	950	256	5	101	127	549	300	78	67	68	83	62	52	4.8	3.8	25.9	54	75	97	92	176	110	6	52	24	34	105	7
KANSAS CITY	309	2.1	-7.6	31.1	19.4	12.1	5	41.7	-25.0	653	2976	141	32	940	288	3	224	150	495	155	74	64	65	80	52	50	4.9	3.8	31.3	[illegible]	82	125	90	150	102	7	51	25	37	105	7
KANSAS CITY 1971	226	4.4	-4.9	33.3	21.7	13.8	12	41.1	-22.8	573	2617	114	31	865	303	1	169																								
ST JOSEPH	247	2.2	-8.7	31.7	19.7	12.1	28	41.7	-31.7	668	3022	169	26	906	349	T	181	147	488	287	74	63	68	82	56	62	4.7	3.5	26.8			124	98	143	93	6	56	19	42	120	7
ST LOUIS	163	4.4	-5.2	31.3	20.4	13.3	20	41.1	-25.6	580	2639	112	47	912	231	2	84	117	470	305	82	65	[illegible]	86	57	56	4.6	3.4	26.8	54	72	103	105	157	109	6	45	11	37	105	4
SPRINGFIELD	386	6.2	-5.2	31.7	19.2	13.4	32	45.0	-23.9	553	2539	129	42	1008	476	2	174	79	394	399	77	[illegible]	64	86	56	57	5.4	3.9	29.5	51	72	117	98	150	107	5	58	20	40	105	3
MONTANA							111	47.2	-56.7							0	292																								
BILLINGS	1087	-0.4	-10.9	29.8	14.4	7.9	43	41.1	-38.9	742	4036	66	16	359	194	T	72	239	1422	602	64	60	57	63	39	30	5.9	4.4	35.3	[illegible]	78	89	117	159	95	[illegible]	29	[illegible]	28	151	18
GLASGOW	696	-7.3	-18.1	29.1	13.7	5.3	22	41.1	-43.9	961	4982	69	8	276	136	T	101	178	683	224	71	68	69	74	44	35	4.6	4.8	20.5			84	111	170	90	[illegible]	27	12	[illegible]	181	42
GREAT FALLS	1114	-1.5	-11.3	28.7	12.7	7.2	40	41.1	-41.7	767	4251	79	17	381	207	T	81	254	1468	427	65	62	61	64	[illegible]	[illegible]	7.1	4.6	[illegible]	48	[illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	26	13	[illegible]	156	38
HAVRE	788	-5.5	-17.5	29.4	12.7	5.7	17	43.9	-46.7	925	4826	65	10	293	127	T	59	241	1107	683	73	68	[illegible]	[illegible]	[illegible]	[illegible]	4.8	4.2	[illegible]	48	64	84	104	177	86	14	22	[illegible]	[illegible]	161	43
HELENA	1167	-2.1	-13.4	28.7	11.2	6.2	37	40.6	-41.1	808	4550	67	10	289	120	1	52	231	1222	546	68	64	62	63	29	28	3.2	3.5	32.6	46	[illegible]	81	103	181	96	14	[illegible]	[illegible]	[illegible]	169	21
KALISPELL	904	-2.7	-11.7	27.1	8.8	5.4	28	40.6	-38.9	790	4752	65	22	412	120	T	60	485	1702	391	79	79	73	81	43	33	3.0	3.0	23.2			73	82	210	131	[illegible]	24	31	[illegible]	192	16
MILES CITY	801	-3.3	-15.2	31.6	15.4	7.4	[illegible]	43.3	-39.3	854	4382	84	12	354	248	T	69	163	820	267	74	70	70	68	33	31	4.3	4.4				101	108	156	94	[illegible]	28	[illegible]	[illegible]	[illegible]	31
MISSOULA	972	-1.9	-10.6	29.1	9.4	6.5	33	40.6	-36.1	761	4406	54	18	339	106	T	46	335	1250	366	85	81	77	76	42	30	2.3	3.0	32.2	29	79	74	81	210	123	15	[illegible]	[illegible]	[illegible]	169	10
NEBRASKA							102	47.8	-43.9							0	334																								
GRAND ISLAND	561	0.7	-11.6	31.5	17.7	10.1	32	42.8	-33.3	735	3566	112	13	595	355	0	149	145	737	307	75	64	67	81	51	47	5.3	4.8	25.5			122	102	141	87	[illegible]	49	[illegible]	40	149	16
LINCOLN	359	0.4	-11.3	31.6	18.7	10.6	5	41.1	-36.1	737	3454	131	19	727	191	T	89	173	721	264	78	67	71	77	46	43	4.4	4.7	26.4	59	74	113	99	153	89	8	48	[illegible]	42	145	17
LINCOLN 1971	351	1.1	-8.8	33.5	19.9	11.6	7	40.6	-27.8	687	3257	114	23	697	328	1	137	160	734	483							4.4	4.2	26.6	58	75	125	94	146	96	8	49	8	32	129	[illegible]
NORFOLK	471	-1.3	-13.3	30.6	17.7	9.1	32	45.0	-32.8	794	3879	124	15	618	310	T	140	145	732	267	75	64	68	83	52	49	6.2	5.5	[illegible]			118	99	148	87	9	51	11	34	156	20
NORTH PLATTE	846	2.0	-12.2	30.9	16.1	9.2	25	44.4	-31.7	717	3746	96	10	505	203	T	97	137	759	302	78	63	65	84	52	[illegible]	4.1	4.3	32.2	60	74	117	113	135	84	[illegible]	48	[illegible]	[illegible]	160	[illegible]
OMAHA	298	0.4	-10.9	31.4	18.8	10.8	42	45.6	-30.0	730	3360	125	19	767	349	T	164	216	813	465	75	65	68	83	56	54	5.0	4.1	48.7			114	106	145	99	9	49	15	37	137	13
OMAHA (NORTH)	399	-1.6	-11.6	29.7	18.2	9.7	23	41.7	-30.0	772	3607	125	18	748	358	1	94	36	622	112									[illegible]	55	76	121	95	149	93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16
SCOTTSBLUFF	1204	3.6	-11.5	31.6	14.3	9.0	35	42.8	-35.6	690	3703	85	8	370	212	T	95	155	965	381	74	58	58	80	42	37	4.8	4.2	35.8			121	108	136	83	[illegible]	44	10	38	170	15
VALENTINE	789	0.7	-13.6	31.3	15.4	8.3	23	42.8	-33.9	768	4055	91	8	452	228	T	86	114	721	610	80	66	66	83	50	[illegible]	4.5	4.5	32.6	65	[illegible]	123	105	137	79	9	45	5	34	[illegible]	26
NEVADA							89	50.0	-45.6							0	188																								
ELKO	1539	2.2	-12.0	32.4	9.2	7.4	47	40.0	-41.7	720	4157	29	9	248	117	0	105	254	988	424	74	69	57	55	25	19	2.4	2.8	25.9			132	96	137	77	14	21	[illegible]	[illegible]	193	12
ELY	1906	3.3	-12.7	30.2	8.9	6.7	39	37.2	-33.3	713	4341	25	14	221	90	0	39	216	1209	333	71	60	54	51	24	22	4.7	4.6	33.1	60	[illegible]	133	[illegible]	[illegible]	72	15	34	[illegible]	16	218	19
LAS VEGAS	659	13.2	0.3	39.9	24.1	18.8	24	46.7	-13.3	358	1445	12	2	96	66	0	66	28	36	229	52	38	38	29	19	14	3.2	4.5	28.6	76	87	215	83	67	24	*	15	[illegible]	125	37	0
RENO	1342	7.4	-7.6	32.8	8.6	9.7	36	40.0	-26.7	570	3345	31	6	183	133	0	60	160	673	429	75	67	50	62	28	[illegible]	2.6	3.0	35.8	66	[illegible]	165	91	[illegible]	49	9	14	3	42	159	3
WINNEMUCCA	1311	4.8	-9.1	32.8	10.5	8.8	28	41.1	-36.7	634	3682	26	5	215	73	0	45	145	645	251	77	66	57	45	22	15	3.4	3.5	29.5	48	85	137	89	139	67	9	14	4	[illegible]	[illegible]	7
NEW HAMPSHIRE							101	41.1	-43.3							0	264																								
CONCORD	104	-0.4	-12.3	28.1	13.7	7.6	35	38.9	-38.3	764	4088	101	62	919	257	10	114	437	1646	483	74	59	66	85	54	[illegible]	3.3	2.5	32.2	52	[illegible]	93	111	161	125	16	[illegible]	[illegible]	14	176	27
MT WASHINGTON OBS	1909	-9.9	-19.3	12.6	6.1	-2.8	45	22.2	-43.9	1021	7709	195	130	1935	649	19	264	930	6259	1252	83	83	83	91	87	[illegible]	20.7	11.2	3.3	33	[illegible]	49	73	243	208	68	19	[illegible]	0	243	66
NEW JERSEY							93	43.3	-36.7							0	376																								
ATLANTIC CITY	20	5.2	-4.4	29.3	18.6	12.1	34	41.1	-23.3	556	2748	124	76	1155	332	3	164	124	401	366	75	57	69	84	58	[illegible]	5.2	4.0	26.8	50	[illegible]	97	[illegible]	[illegible]	[illegible]	4	25	43	[illegible]	[illegible]	[illegible]
NEWARK	[illegible]	3.6	-4.3	29.8	19.6	12.2	[illegible]	40.6	-21.7	579	2796	108	72	1053	301	2	199	175	693	560	73	58	64	71	51	[illegible]	5.0	[illegible]	[illegible]			96	112	157	[illegible]	7	25	[illegible]	[illegible]	[illegible]	[illegible]

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C)								Normal Heating Degree Days (1941-1970)		Precipitation (Millimeters)									Relative Humidity (Percent)						Wind Speed (m.p.s.)			Sunshine (% of Possible)		Annual Mean Number of Days									
		Normal (1941-1970)					Extremes					Normal (1941-1970)			Extremes			Snow @			January			July			Mean Speed		Fastest Mile (1 6 Kilometers)	January	July	Sunrise to Sunset			Precipitation .25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	Temperature		
		January		July		Annual	Length (Yrs)	Record Highest	Record Lowest	January	Seasonal	Wettest Month	Driest Month	Annual	Wettest Month	Driest Month	Maximum In 24 Hours	Mean Total		Ex-treme	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	January	July				Clear	Partly Cloudy	Cloudy					Max	Min	
		Daily Maximum	Daily Minimum	Daily Maximum	Daily Minimum													January	Seasonal	Maximum In 24 Hours																			≥ 32.2 C	≤ 0 °C	≤ -17.8 °C
NEW JERSEY																																									
TRENTON U	17	3.[illegible]	-3.7	29.4	19.3	12.2	45	41.1	-25.6	567	2748	120	64	1020	358	1	192	145	577	422							4.4	3.5	28.6	51	65	100	116	149	121	7	33		17	88	*
NEW MEXICO							86	46.7	-45.6							0	287																								
ALBUQUERQUE	1619	8.3	-4.7	33.4	18.4	13.8	38	40.6	-27.2	513	2384	35	7	197	85	0	49	58	267	361	69	49	38	62	36	28	3.6	4.1	40.2	73	76	174	108	83	59	4	42	5	61	123	1
CLAYTON	1515	8.6	-7.4	30.7	15.5	11.5	33	40.0	-29.4	549	2892	70	7	404	197	0	119	81	483	323	64	42	47	78	42	42						164	97	104	67	7	54	11	35	143	3
RATON 1968	1944	7.4	-10.8	30.3	11.6	9.4	23	36.7	-35.0	620	3460	67	7	375	303	0	142	122	615	257		45			38							134	132	99	78	9	75	8	16	182	9
ROSWELL 1972	1101	12.8	-6.3	35.2	16.5	14.7	12	43.3	-22.2	467	2107	46	9	295	143	0	108	69	282	389	70	46	37	73	40	35	3.8	4.2	33.5	78	76	178	102	85	50	4	40	9	107	109	1
ROSWELL	1112	13.0	-6.2	34.8	17.6	15.1	5	41.7	-16.1	463	2054	43	7	269	165	0	100	66	269	119	68	48	38	73	45	36	3.5	4.1	32.6	69	76	173	118	74	46	3	33	14	83	90	0
SILVER CITY 1968	1638	11.4	-3.1	32.4	17.7	14.6	7	38.9	-22.8	439	2058	61	7	273	114	0	53	66	213	178		43	39		36	36						187	110	68	60	3	54	1	43	105	
NEW YORK							88	42.2	-46.7							0	284																								
ALBANY	84	-0.9	-10.8	28.8	15.6	8.7	31	37.8	-33.3	749	3826	83	54	847	228	5	115	381	1669	556	79	63	73	80	55	64	4.4	3.3	31.7	46	63	71	110	184	136	16	28	23	8	154	16
BINGHAMTON	485	-1.8	-9.3	25.8	15.3	7.8	26	35.6	-28.9	740	4047	97	57	949	245	T	99	483	2207	584	80	72	75	85	58	66	5.2	3.8	32.2	38	65	46	106	213	164	25	31	53	2	149	8
BINGHAMTON U 1968	262	1.2	-7.3	28.4	15.8	9.3	77	39.4	-33.3	661	3584	97	60	932	244	4	116	325	1326	533															151	15				133	7
BUFFALO	215	-1.2	-8.0	26.4	15.9	8.4	34	37.2	-28.9	711	3848	95	57	917	271	3	99	584	2360	617	78	73	76	79	55	61	6.5	4.7	40.7	33	69	55	102	208	169	27	31	19	2	136	5
NEW YORK CENTRAL PK.	40	3.6	-3.4	29.6	20.0	12.5	109	41.1	-26.1	565	2693	102	69	1021	428	1	284	193	737	671	68	60	61	75	55	63	4.8	3.4	31.3	50	65	107	125	133	121	8	19		17	81	*
NEW YORK KENNEDY	4	3.3	-4.0	28.4	19.4	11.7	17	40.0	-18.9	579	2880	109	68	1055	442	T	167	170	597	505	71	59	64	74	58	71	6.0	4.8	23.2			96	122	147	118	7	22	32	10	85	*
NEW YORK LA GUARDIA	3	3.2	-3.1	28.9	20.7	12.4	16	41.7	-18.9	567	2727	114	73	1057	408	1	181	163	665	579	65	56	58	71	52	60	6.2	4.6	31.3			93	117	155	120	7	24	13	13	75	*
ROCHESTER	167	-0.4	-8.5	27.9	15.7	8.8	37	37.8	-26.7	706	3732	75	57	796	246	6	98	546	2207	475	75	68	73	81	53	59	5.3	3.6	32.6	37	69	61	109	195	155	27	29	13	10	135	6
SYRACUSE	125	-0.3	-9.0	27.8	16.1	8.9	28	36.7	-32.2	713	3710	89	68	925	312	5	108	668	2812	622	76	68	74	81	56	64	4.9	3.8	28.2	35	65	63	100	202	169	33	29	9	7	137	9
NORTH CAROLINA							91	42.8	-33.9							0	564																								
ASHEVILLE	652	9.1	-2.6	29.1	17.0	13.2	13	35.6	-21.7	467	2354	124	75	1148	287	4	130	112	442	414	86	60	69	96	64	75	4.3	2.6	26.8	56	60	101	113	151	127	5	49	84	6	105	1
CAPE HATTERAS R	2	11.3	3.4	28.8	22.3	16.5	20	35.0	-11.1	339	1517	171	79	1413	372	11	206	10	41	178	80	68	78	85	70	82	5.6	4.6	19.7	49	63	106	100	159	122	1	45	17	3	32	0
CHARLOTTE	224	11.2	0.1	31.3	20.4	15.8	38	40.0	-19.4	394	1788	114	68	1085	317	T	136	53	135	305	78	57	62	88	58	67	3.6	3.0	26.4	55	69	111	104	150	111	2	42	26	33	72	0
GREENSBORO	273	9.3	-1.9	30.8	19.4	14.5	49	38.9	-21.7	453	2125	112	67	1051	337	3	190	84	221	363	81	58	65	90	60	70	3.7	3.0	28.2	52	62	112	105	148	118	2	47	32	29	85	*
RALEIGH	132	10.6	-1.1	30.9	19.6	15.1	33	40.6	-18.3	422	1952	129	71	1081	329	6	132	66	173	236	78	55	63	90	59	72	3.8	3.0	32.6	55	61	114	106	145	112	2	46	36	27	82	*
WILMINGTON	9	13.7	2.3	31.6	22.2	17.6	26	40.0	-12.2	326	1352	212	75	1361	394	4	209	10	48	297	81	58	72	87	64	78	4.2	3.6	39.3	57	63	114	105	146	118	1	46	24	41	42	0
NORTH DAKOTA							86	49.4	-51.1							0	206																								
BISMARCK	502	-7.2	-19.3	29.1	14.1	5.2	38	42.8	-42.2	978	5024	91	11	410	211	T	83	178	983	394	73	67	69	82	46	42	4.5	4.2	32.2	54	76	94	107	164	96	12	34	12	21	186	50
FARGO	273	-9.2	-19.8	28.2	14.8	4.9	25	41.1	-37.2	1018	5150	81	11	498	239	1	120	185	902	320	73	71	72	85	54	52	5.8	4.9	51.4	50	71	87	112	166	102	12	33	13	14	180	54
WILLISTON	579	-7.1	-19.3	28.9	13.4	4.9	16	41.7	-40.6	977	5089	83	12	364	187	T	128	178	945	236	78	72	74	81	46	38	4.5	4.2	31.3	48	75	88	108	169	95	12	27	10	20	190	53
OHIO							104	45.0	-39.4							0	267																								
AKRON	368	1.1	-7.4	28.1	16.0	9.8	29	37.8	-29.4	667	3457	98	55	892	290	5	106	264	1214	455	78	69	71	84	56	62	5.2	3.4	22.8			70	100	195	153	15	40	28	7	127	6
CINCINNATI ABBE OBS.	232	4.3	-4.3	30.3	18.8	12.7	62	42.8	-27.2	567	2691	105	56	1017	347	3	121	130	480	279							3.7	2.3	21.9	41	68				131	6	50		28	98	2
CLEVELAND	237	0.8	-6.5	27.6	16.2	9.8	36	39.4	-28.3	656	3419	89	55	889	241	9	102	274	1326	381	76	69	71	82	58	62	5.6	3.9	33.1	32	68	69	100	196	157	18	36	13	8	124	6
COLUMBUS	247	2.4	-6.4	29.3	16.9	10.8	38	38.9	-28.3	630	3167	107	48	940	248	3	122	191	704	226	76	67	69	84	56	60	4.6	3.0	28.2	37	63	74	106	185	136	9	42	18	15	122	5
DAYTON	303	2.1	-6.4	29.3	18.0	11.1	34	38.9	-29.4	635	3134	99	49	873	277	3	109	178	706	287	75	67	70	81	54	58	5.3	3.6	34.9	42	68	80	103	182	130	9	40	23	17	117	6
MANSFIELD	395	1.8	-6.3	28.7	17.4	10.7	18	36.1	-28.9	637	3232	96	50	855	205	11	129	246	1046	312	81	72	76	83	56	65	6.0	3.8	20.6			71	100	194	139	14	40	31	7	126	7
TOLEDO	204	0.2	-8.2	28.8	16.0	9.6	22	38.3	-27.2	692	3545	86	44	800	215	7	112	229	988	353	78	68	73	85	54	60	4.9	3.4	32.2	43	68	73	109	183	136	12	40	18	14	144	9
YOUNGSTOWN	359	0.6	-7.6	27.7	15.3	9.3	34	37.8	-27.8	677	3570	99	61	965	251	7	109	323	1463	526	81	73	76	85	55	64	5.3	3.5	25.9			66	98	201	162	19	36	29	7	136	6
OKLAHOMA							86	48.9	-32.8							0	398																								
OKLAHOMA CITY	392	8.7	-3.3	33.7	21.3	15.5	24	42.2	-20.0	486	2053	132	28	797	274	T	195	71	224	213	79	60	61	81	50	47	5.9	5.0	38.9	59	75	141	96	128	81	3	51	19	66	80	*
TULSA	198	8.3	-3.3	33.8	21.9	15.7	39	44.4	-22.2	489	2044	130	36	937	478	T	192	79	231	249	78	59	59	83	54	50	4.8	4.2	33.5	53	72	125	103	137	90	4	52	10	70	84	1
OREGON							88	48.3	-47.8							0	258																								
ASTORIA	2	8.1	1.4	19.8	11.2	10.3	24	37.8	-14.4	420	2941	268	24	1685	556	T	110	79	157	274	86	84	79	89	75	69	4.2	3.7	24.6			50	75	240	198	2	8	43	1	38	0
BURNS U	1265	1.9	-9.4	29.8	10.6	7.8	27	39.4	-32.2	685	4006	45	8	300	146	0	55	361	1201	279	82	76	68	53	36	21	2.8	3.4	33.1			124	92	149	90	16	14	12	21	187	5
EUGENE	109	7.6	0.6	28.1	10.6	11.4	35	41.1	-24.4	441	2633	194	7	1081	533	0	124	127	193	582	91	87	80	87	56	37	3.7	3.6	28.2			74	83	208	137	2	5	58	15	54	*
MEACHAM 1975	1234	0.1	-6.6	25.1	9.9	6.5	31	40.6	-30.6	668	4368	117	14	830	262	0	76	833	3858	582	87	81	79	62	39	26			19.7			94	67	204	146	44	16	31	3	166	4
MEDFORD	396	6.8	-1.7	31.9	12.1	11.7	48	46.1	-21.1	489	2739	94	6	524	323	0	95	102	221	236	89	88	73	73	44	26	1.8	2.6	24.6			118	79	168	101	3	9	48	55	93	*
PENDLETON	452	3.7	-3.7	31.2	14.9	11.3	42	45.0	-30.0	568	2911	41	7	313	119	0	39	196	450	338	80	76	74	53	33	22	3.8	4.2	34.4			106	89	170	99	6	10	29	35	82	3
PORTLAND	6	6.4	0.3	26.1	12.9	11.4	37	41.7	-19.4	463	2662	153	12	955	326	0	67	107	188	269	86	82	76	82	61	45	4.5	3.4	39.3	25	69	70	69	226	152	2	7	33	10	44	*
SALEM	60	7.4	0.1	28.0	10.4	11.3	40	42.2	-24.4	451	2695	179	9	1043	391	0	80	94	178	274	85	83	75	85	57	40	3.9	2.9	25.9			79	80	206	150	2	6	38	17	69	*
SEXTON SUMMIT R	1169	4.3	-1.6	24.3	10.8	8.7	33	37.8	-18.9	526	3572	166	8	934	612	0	152	632	2703	866	80	79	75	65	60	40	5.7	5.3	28.2			128	67	170	129	29	6	160	3	114	*

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C)								Normal Heating Degree Days (1941-1970)		Precipitation (Millimeters)									Relative Humidity (Percent)						Wind Speed (m.p.s.)			Sunshine (% of Possible)		Annual Mean Number of Days									
		Normal (1941-1970) January		July			Extremes					Normal (1941-1970)			Extremes			Snow @ Mean Total		Extreme	January			July			Mean Speed					Sunrise to Sunset							Temperature Max	Min	
		Daily Maximum	Daily Minimum	Daily Maximum	Daily Minimum	Annual	Length (Yrs)	Record Highest	Record Lowest	January	Seasonal	Wettest Month	Driest Month	Annual	Wettest Month	Driest Month	Maximum In 24 Hours	January	Seasonal	Maximum In 24 Hours	7 00 a.m. EST	1 00 p.m. EST	7 00 p.m. EST	7 00 a.m. EST	1 00 p.m. EST	7 00 p.m. EST	January	July	Fastest Mile (1 6 Kilometers)	January	July	Clear	Partly Cloudy	Cloudy	Precipitation 25mm or More	Snow Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	≥ 32.2 C	≤ 0 C	≤ 17 8 C
PACIFIC AREA																																									
MARCUS ISLAND 1968	6	24.4	20.1	30.7	25.6	25.7	4	33.9	12.8	0	0	183	41	1081	343	3	144	0	0	0	72	75	68	79	83	71	6.3	5.2	51.0	58	73	85	147	133	146	0	5	1	25	0	0
GUAM TAGUAC R	110	28.4	21.9	30.1	22.6	25.9	21	35.0	12.2	0	0	366	75	2303	1019	13	686	0	0	0	87	88	78	93	94	80	3.7	2.3	35.8	56	51	7	136	222	269	0	27	*	4	0	0
JOHNSTON	2	27.1	22.7	29.2	25.0	26.1	22	31.7	16.7			88	26	713	401	2	242	0	0	0	75	76	67	78	77	69	6.3	7.1	46.9	64	78	85	165	115	161	0	4	0	0	0	0
KOROR R	29	30.2	23.8	30.6	24.0	27.5	28	35.0	20.6	0	0	411	189	3650	884	31	355	0	0	0	86	90	81	89	91	81	3.8	3.0	32.6	56	51	0	49	316	267	0	37	0	54	0	0
KWAJALEIN	2	29.4	25.2	30.4	25.3	27.7	25	36.1	20.6	0	0	304	60	2573	772	1	436	0	0	0	79	80	71	84	85	78	7.5	4.6	24.6			17	82	266	240	0	10	0	15	0	0
MAJURO	3	29.3	25.0	29.7	24.8	27.3	22	32.8	20.6	0	0	404	177	3629	790	10	454	0	0	0	80	81	75	83	84	77	5.7	3.8	17.0	59	53	11	81	273	259	0	17	0	1	0	0
PAGO PAGO	4	30.6	23.3	28.7	22.8	26.4	18	33.3	16.7	0	0	377	154	3265	830	18	274	0	0	0	88	88	75	84	84	75	3.8	5.3	25.5	49	53	21	149	195	248	0	26	0	13	0	0
PONAPE R	37	29.9	24.2	30.7	22.7	26.9	27	35.6	18.9	0	0	497	291	4920	982	27	571	0	0	0	83	84	76	93	95	79	3.8	2.2	16.1	49	48	2	66	297	298	0	28	0	40	0	0
TRUK MOEN ISLAND	2	29.6	24.9	30.3	23.9	27.3	27	34.4	20.0	0	0	400	163	3701	886	21	379	0	0	0	81	82	76	88	91	79	4.7	3.4	34.9	60	55	0	50	315	268	0	13	0	6	0	0
WAKE	3	27.6	22.5	30.6	25.0	26.6	30	33.3	17.8	0	0	161	27	950	449	2	381	0	0	0	76	77	65	81	82	70	6.0	5.7	46.5	70	75	113	154	98	181	0	7	0	1	0	0
YAP R	13	29.6	24.2	30.7	24.0	27.3	29	36.1	18.3	0	0	385	137	3087	882	23	265	0	0	0	85	87	78	89	92	80	4.6	2.7	32.2	61	52	7	69	289	261	0	16	0	34	0	0
PENNSYLVANIA							90	43.9	-41.1							0	876																								
ALLENTOWN	118	2.1	-6.8	29.7	17.1	10.6	34	40.6	-24.4	640	3237	111	69	1079	307	2	122	198	800	445	76	62	69	82	52	61	4.8	3.2	36.2			94	113	158	124	9	33	28	16	129	2
ERIE	223	-0.2	-7.5	25.2	15.6	8.4	24	34.4	-26.1	687	3806	94	54	970	281	15	123	511	2116	584	76	73	74	83	65	66	6.0	4.1	24.6			66	94	205	162	27	38	14	1	133	5
HARRISBURG	103	3.2	-5.3	30.4	18.6	11.9	39	41.7	-22.2	601	2902	96	61	926	471	1	319	229	876	533	71	58	63	78	52	60	3.8	2.8	30.4	48	66	85	107	173	125	9	33	27	24	107	1
PHILADELPHIA	2	4.5	-4.2	30.4	19.3	12.6	36	40.0	-20.6	563	2703	104	64	1014	246	2	144	145	513	371	73	59	66	79	54	63	4.6	3.6	32.6	51	63	93	112	160	116	6	27	25	19	101	*
PITTSBURGH GRT. AP	347	1.8	-6.2	28.1	16.3	10.2	25	37.2	-27.8	635	3294	98	60	920	208	4	90	284	1151	373	76	66	67	83	53	59	4.8	3.4	25.9	35	60	58	103	204	153	14	36	18	7	124	5
PITTSBURGH U	228	3.0	-4.6	28.9	18.4	11.7	43	39.4	-25.6	592	2932	94	58	920	225	4	91	193	762	511										26	53				147	9			10	98	1
READING U 1968	81	3.9	-3.2	30.2	19.6	12.4	28	39.4	-18.9	556	2747	108	67	1052	377	4	154	213	777	475	71			75			5.1	3.8	35.8	46	63	98	110	157	122	8	32	8	24	92	
W B SCRANTON AVOCA	283	0.8	-7.6	28.3	16.3	9.7	22	38.3	-23.9	672	3487	104	56	884	206	1	92	279	1285	521	76	65	67	84	55	62	4.0	3.3	26.8	45	61	69	107	189	141	13	31	24	4	132	4
WILLIAMSPORT	160	1.7	-7.0	29.1	16.3	10.2	33	38.9	-27.2	651	3322	104	64	1016	427	5	220	249	1113	587	77	62	68	87	55	64	4.0	3.0	34.9			67	115	183	144	12	34	39	13	129	4
RHODE ISLAND							90	40.0	-30.6							0	308																								
BLOCK ISLAND	34	3.0	-3.7	24.2	17.4	10.1	26	33.3	-20.0	579	3206	110	56	1029	292	T	216	130	526	429	73	65		87	72							97	114	154	112	6	17	87	*	89	*
PROVIDENCE	16	2.3	-6.3	27.3	17.2	10.0	24	40.0	-25.0	630	3317	115	67	1086	302	10	168	244	965	465	71	56	63	78	57	67	5.1	4.2	40.2	57	60	102	103	160	125	10	20	26	9	123	3
SOUTH CAROLINA							93	43.9	-28.9							0	337																								
CHARLESTON	12	15.4	2.9	31.7	21.8	18.2	35	39.4	-13.3	289	1192	209	54	1324	692	T	257	T	15	150	84	56	72	88	63	78	4.1	3.6	31.7	57	67	103	110	152	115	*	56	29	48	35	0
COLUMBIA	65	13.8	1.1	33.3	21.3	17.5	30	41.7	-15.6	338	1443	144	59	1178	425	T	195	10	43	399	83	56	66	90	56	69	3.1	2.9	26.8	57	64	119	104	142	110	1	54	27	60	61	0
GRNVLLE SPRTNBRG	292	10.9	0.6	30.9	20.6	15.9	15	38.3	-21.1	391	1757	135	75	1208	296	6	158	53	145	290	78	55	63	86	58	67	3.2	2.6	23.2	53	59	119	105	141	119	2	44	36	31	68	*
SOUTH DAKOTA							88	48.9	-50.0							0	203																								
ABERDEEN	395	-6.4	-18.6	29.5	14.7	6.0	18	44.4	-39.4	956	4787	97	11	485	226	0	102	183	925	381	73	70	72	83	50	46	5.1	4.3	25.9			104	99	162	87	12	36	18	26	180	44
HURON	390	-4.8	-16.9	30.4	15.9	7.1	36	44.4	-39.4	904	4475	96	11	494	211	T	139	173	1003	447	73	67	71	85	50	46	5.2	4.8	34.4	57	77	105	107	153	93	12	41	14	31	173	38
RAPID CITY	964	1.2	-12.4	30.2	14.9	8.1	35	43.3	-32.8	742	4068	93	10	435	187	T	102	137	998	414	68	59	64	72	45	40	4.8	4.5	29.5	55	72	110	113	142	96	12	42	13	31	169	20
SIOUX FALLS	432	-4.1	-15.7	29.5	16.4	7.4	32	42.2	-37.8	875	4354	110	14	628	231	T	117	155	993	660	75	67	72	81	51	48	4.9	4.4	31.3			105	106	154	93	11	44	24	26	169	34
TENNESSEE							99	45.0	-35.6							0	279																								
BRISTOL	459	7.8	-2.9	29.9	18.0	13.4	32	38.9	-26.1	493	2392	126	57	1053	247	2	93	122	396	411	80	62	66	92	61	68	2.9	1.8	22.4			90	112	163	134	5	46	44	13	96	2
CHATTANOOGA	203	9.9	-0.8	31.9	20.1	15.4	38	41.1	-23.3	427	1947	143	75	1319	360	5	168	43	102	226	82	63	67	89	57	64	3.2	2.3	36.7	42	61	107	107	151	121	2	56	36	47	75	*
KNOXVILLE	299	9.4	0.1	31.1	20.2	15.4	36	39.4	-22.8	420	1932	123	68	1173	298	T	129	97	310	462	80	64	65	90	61	65	3.6	2.8	32.6	39	61	95	108	162	128	4	48	37	21	71	1
MEMPHIS	79	9.7	-0.2	33.1	21.9	16.4	36	41.1	-25.0	422	1793	138	66	1247	312	T	151	53	140	409	79	64	68	85	57	59	4.7	3.4	17.9	49	73	119	99	147	106	2	53	11	65	58	*
NASHVILLE	180	8.7	-1.7	32.3	20.6	15.2	38	41.7	-26.1	460	2053	127	55	1168	354	T	136	102	277	259	80	65	69	91	59	63	4.1	2.8	32.6	41	65	104	106	155	119	4	55	17	37	75	1
OAK RIDGE R	276	8.4	-1.6	30.8	19.1	14.3	30	40.6	-22.8	463	2191	144	69	1336	489	T	190	81	246	305							2.1	1.7	26.4			108	90	167	128	3	53	34	27	83	*
TEXAS							97	48.9	-30.6							0	970																								
ABILENE	544	13.2	-0.2	35.2	22.4	18.1	38	42.8	-22.8	367	1450	98	25	599	335	0	170	46	114	191	71	53	48	71	46	40	5.4	4.9	48.7	63	78	149	97	119	65	2	42	7	93	56	*
AMARILLO	1098	9.7	-5.3	33.0	18.8	14.1	37	42.2	-25.6	499	2324	88	13	515	273	0	171	86	363	343	69	48	44	73	43	39	5.9	5.6	37.6	69	77	161	103	101	67	4	49	25	64	108	2
AUSTIN	182	15.6	4.1	35.2	23.2	20.1	36	42.8	-18.9	268	965	101	49	825	313	0	183	13	25	178	79	60	57	87	50	46	4.4	3.8	25.5	49	76	116	115	134	82	*	41	24	104	23	0
BROWNSVILLE	6	20.8	10.6	33.8	24.4	23.2	39	40.0	-7.2	125	361	133	18	637	489	T	310	T	T	T	87	68	74	90	57	64	5.2	5.4	30.8	44	81	96	137	132	73	0	24	17	105	2	0
CORPUS CHRISTI	12	19.2	7.8	34.7	24.0	22.2	39	40.0	-10.0	169	517	124	28	725	516	0	223	T	T	28	89	71	73	93	58	64	5.4	5.2	53.6	47	82	104	120	141	77	*	31	29	96	7	0
DALLAS FT WORTH	168	13.2	1.1	35.3	23.3	18.6	24	42.8	-15.6	348	1323	114	46	820	321	T	150	38	74	307	80	60	58	81	50	46	5.1	4.2	32.6			140	94	131	78	1	45	11	91	39	0
DALLAS 1973	147	13.2	2.2	34.7	24.1	18.8	15	41.7	-13.3	334	1313	123	49	878	391	T	233	30	51	188	77	59	56	77	51	44	4.7	4.5	29.1	51	77	139	93	133	80	1	43	8	95	35	0
DEL RIO	313	17.4	3.4	37.3	23.4	21.1	15	42.8	-8.3	249	846	77	13	429	401	0	193	T	15	76	75	55	46	79	53	39	3.9	4.9	26.8			121	104	140	60	*	35	15	121	19	0
EL PASO	1194	13.9	-1.0	34.8	21.1	17.4	36	42.8	-22.2	368	1488	39	6	197	170	0	67	36	119	198	[illegible]	42	33	62	39	[illegible]	4.0	[illegible]	31.3	78	79	193	101	71	45	2	36	2	104	64	*
GALVESTON U	2	15.2	9.1	30.8	26.1	21.0	107	38.3	-13.3	203	680	142	66	1072	661	0	364	T	8	391	85	77	80	81	70	73	5.2	4.4	44.7	48	72				96	*			11	4	0

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temp. Normal (1941-1970) January Daily Maximum	January Daily Minimum	July Daily Maximum	July Daily Minimum	Annual	Temp. Extremes Length (Yrs)	Record Highest	Record Lowest	Normal Heating Degree Days (1941-1970) January	Seasonal	Precip. Normal (1941-1970) Wettest Month	Driest Month	Annual	Precip. Extremes Wettest Month	Driest Month	Maximum In 24 Hours	Snow @ Mean Total January	Seasonal	Snow Extreme Maximum In 24 Hours	Rel. Humidity January 7 00 a.m. EST	January 1 00 p.m. EST	January 7 00 p.m. EST	July 7 00 a.m. EST	July 1 00 p.m. EST	July 7.00 p.m. EST	Wind Mean Speed January	Mean Speed July	Fastest Mile (1 6 Kilometers)	Sunshine (% of Possible) January	Sunshine July	Sunrise to Sunset Clear	Partly Cloudy	Cloudy	Precipitation 25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	Max ≥ 32 2 C	Min ≤ 0 °C	Min ≤ 17 8 C
TEXAS																																									
HOUSTON INTERCON	29	17.0	5.3	34.3	22.7	20.5	8	38.3	-7.8	231	797	130	68	1224	366	7	207	5	10	51	88	64	70	93	58	63	3.6	2.9	20.6	45	67	95	112	158	106	*	68	39	85	25	0
HOUSTON HOBBY 1969	15	17.6	6.4	33.4	23.2	20.7	9	41.1	-8.3	213	775	111	68	1167	567	T	398	5	10	112	84	64	67	91	59	64	5.3	3.9	24.1	47	74	87	126	152	103	0	59	42	95	13	0
LUBBOCK	992	11.9	-4.0	33.6	19.4	15.4	31	41.7	-26.7	446	1969	81	12	468	225	0	145	46	236	307	72	48	46	76	48	40	5.5	5.1	31.3	70	74	163	104	98	60	3	45	16	78	98	1
MIDLAND	869	14.3	-1.4	35.0	20.8	17.7	30	42.8	-22.2	368	1456	55	12	343	196	0	152	36	86	173	69	45	39	71	41	34	4.5	4.7	30.0			166	99	100	51	2	36	15	92	64	0
PORT ARTHUR	5	16.4	5.8	33.3	23.3	20.3	24	41.7	-10.0	233	843	150	77	1399	475	0	335	T	13	112	89	70	78	94	64	72	5.0	3.5	33.1	43	66	93	124	148	105	*	64	41	82	18	0
SAN ANGELO	580	15.1	0.9	36.1	22.4	19.0	30	43.9	-17.2	321	1244	70	18	445	234	0	153	28	76	147	73	51	46	76	43	37	4.6	4.3	33.5			157	96	112	56	1	37	7	110	52	0
SAN ANTONIO	240	16.4	4.3	35.3	23.2	20.4	36	41.1	-17.8	251	872	94	37	700	401	0	185	5	13	119	80	60	57	87	51	45	4.1	4.1	33.1	49	75	109	118	138	81	*	36	23	111	22	*
VICTORIA	32	17.4	6.4	34.1	24.1	21.2	17	41.7	-8.9	207	682	117	45	871	369	T	236	T	5	30	86	65	68	92	56	60	4.7	4.0	44.3			84	121	160	88	*	48	41	101	12	0
WACO	153	14.1	2.6	35.7	23.9	19.5	35	44.4	-20.6	310	1143	117	37	794	381	0	182	23	38	178	82	63	61	79	48	43	5.4	4.9	30.8			131	101	133	77	1	45	13	104	33	0
WICHITA FALLS	303	11.9	-1.4	37.3	22.4	17.8	31	45.0	-20.6	405	1613	114	27	691	306	0	146	43	140	150	81	56	56	78	44	40	5.1	4.9	26.8			154	94	117	69	2	49	12	105	69	*
UTAH							87	46.7	-45.6							0	152																								
MILFORD	1533	3.6	-10.6	33.8	13.2	9.6	29	40.6	-35.6	677	3562	26	13	213	66	0	34	213	1113	414		66	60		24	20			25.5	65	75	153	104	108	63	14	32	7	58	182	13
SALT LAKE CITY	1286	3.0	-7.5	33.8	15.8	10.6	49	41.7	-34.4	637	3324	54	17	385	124	0	61	335	1481	460	77	69	67	52	26	20	3.4	4.2	31.7	48	84	128	103	134	88	18	35	11	58	133	3
WENDOVER 1976	1291	2.2	-7.3	33.3	19.2	11.2	38	44.4	-28.3	648	3200	19	6	124	76	0	34	56	191	216	70	62	59	33	22	15						152	92	121	48	3	29	5	50	128	1
VERMONT							90	40.6	-45.6							0	223																								
BURLINGTON	101	-3.4	-13.6	27.2	14.7	6.9	34	38.3	-34.4	830	4375	94	43	827	293	7	91	455	2014	419	69	63	65	81	55	63	4.3	3.5	32.2	42	65	57	103	205	153	23	25	16	6	161	26
VIRGINIA							87	43.3	-33.9							0	686																								
LYNCHBURG	279	7.7	-2.6	30.1	18.6	13.5	33	39.4	-22.2	489	2351	109	66	972	290	7	159	132	460	340	72	53	60	86	57	71	3.9	3.0	25.0	51	62	113	105	147	120	5	41	40	19	94	1
NORFOLK	7	9.3	0.1	30.3	21.1	15.2	29	39.4	-15.0	422	1938	150	69	1135	349	9	290	79	178	290	75	59	68	82	60	71	5.2	3.9	34.9	57	65	110	104	151	115	2	37	22	31	54	0
RICHMOND	50	8.6	-2.4	31.2	19.7	14.3	48	40.6	-24.4	474	2188	143	70	1082	479	8	223	132	353	549	81	57	69	85	56	72	3.5	3.0	30.4	51	65	102	108	155	113	4	37	29	42	86	1
ROANOKE	350	7.6	-2.7	29.9	18.0	13.3	30	40.0	-20.0	493	2393	105	63	991	247	5	163	163	612	442	68	52	56	83	55	63	4.4	3.0	25.9			103	114	148	121	7	38	25	23	92	*
WASHINGTON							111	47.8	-44.4							0	777																								
OLYMPIA	59	6.7	-0.9	25.8	9.3	10.1	36	39.4	-21.7	479	3072	209	18	1289	504	0	125	231	488	521	91	88	81	91	64	49	3.4	2.7	26.8			50	89	226	163	6	5	90	6	89	*
QUILLAYUTE	55	6.7	0.7	19.8	10.2	9.3	11	35.6	-13.9	453	3306	394	60	2667	690	9	211	229	523	213	90	89	85	94	73	64	3.4	2.7	20.6	20	46	47	69	249	214	7	7	50	1	67	0
SEATTLE EMSU U	6	7.1	1.5	24.3	13.1	11.4	44	37.8	-12.2	436	2626	134	22	906	278	T	84	99	211	292									29.1	28	63	71	93	201	151	3	6		2	15	0
SEATTLE TACOMA	122	6.3	0.6	23.9	12.1	10.6	33	37.2	-17.8	462	2880	151	18	985	328	T	87	173	371	544	80	79	75	83	65	49	4.6	3.6	20.1	21	67	55	83	227	160	5	7	47	3	31	0
SPOKANE	718	-0.5	-6.9	29.1	12.8	8.5	30	42.2	-31.7	682	3797	63	10	442	145	T	53	465	1354	330	83	82	77	60	38	25	4.0	3.7	26.4	26	80	88	67	190	114	18	11	47	21	141	4
STAMPEDE PASS R	1206	-2.6	-7.3	18.6	8.3	4.0	34	32.2	-29.4	722	5222	363	39	2313	773	5	202	2096	1344	958	93	92	91	86	66	89						68	56	241	206	87	7	252	*	188	3
WALLA WALLA U	289	4.1	-2.5	31.6	16.8	12.3	63	45.0	-26.7	550	2686	59	8	407	149	0	51	198	508	356		76			34		2.3	2.4	30.0	23	85	114	87	164	106	7	11	14	37	64	2
YAKIMA	321	2.4	-7.4	31.2	11.8	9.9	31	43.3	-31.7	646	3338	34	4	203	106	0	40	251	622	356	83	77	70	68	35	24	2.6	3.4	21.5			110	93	162	67	8	7	18	34	150	4
WEST INDIES																																									
SAN JUAN P.R.	4	27.7	20.4	30.6	23.8	25.9	23	35.6	15.6	0	0	177	52	1502	383	11	162	0	0	0	80	64	74	7[illegible]	66	77	4.1	4.5	35.8	65	65	59	210	96	199	0	40	0	36	0	0
SWAN ISLAND 1970	9	28.1	23.3	30.7	25.3	27.2	27	33.3	17.8	0	0	188	16	1311	801	T	274	0	0	0												79	159	127	153	0			13	0	0
WEST VIRGINIA							87	44.4	-38.3							0	483																								
BECKLEY	763	4.4	-5.1	26.7	15.5	10.5	14	32.2	-27.8	579	3119	111	63	1083	233	4	136	358	1417	351	80	68	72	90	61	73	4.9	3.1	25.9			66	94	205	163	18	46	45	*	115	4
CHARLESTON	286	6.4	-3.7	29.8	17.9	12.9	30	38.9	-24.4	526	2550	128	62	1035	344	2	142	226	752	384	77	63	65	90	60	66	3.4	2.2	24.6			59	115	191	149	9	43	110	21	101	1
ELKINS	594	4.8	-7.1	26.8	13.9	9.8	33	36.1	-30.0	603	3319	125	69	1098	236	8	82	376	1709	475	80	64	71	95	61	72	3.3	1.9	24.6			50	108	207	167	22	44	81	2	143	6
HUNTINGTON	252	6.1	-3.6	29.8	18.2	12.9	17	37.8	-26.1	529	2569	106	53	988	235	T	108	208	612	267	79	66	65	91	60	66	3.3	2.1	21.0			62	104	199	139	7	44	64	17	99	3
PARKERSBURG U	187	5.2	-4.2	29.8	18.2	12.6	89	41.1	-32.8	553	2676	109	54	976	306	2	122	175	607	465	82	66	74	80	52	67	3.2	2.3	29.5	32	62	109	103	153	142	8	44	12	24	98	2
WISCONSIN							87	45.6	-47.8							0	298																								
GREEN BAY	208	-4.5	-13.9	27.1	14.3	6.5	28	37.2	-35.0	854	4498	87	26	686	230	T	117	254	1133	259	76	70	72	85	56	59	5.0	3.8	48.7	46	65	89	104	172	121	14	35	27	7	162	30
LA CROSSE	198	-3.9	-13.8	28.3	16.9	8.0	27	39.4	-38.3	842	4120	113	22	739	267	T	100	241	1090	399	76	66	70	87	57	57	3.8	3.4	28.2			95	97	173	110	12	40	21	16	152	26
MADISON	262	-3.7	-13.2	27.4	14.9	7.2	38	40.0	-38.3	830	4294	110	24	768	278	2	133	224	1021	406	78	68	73	86	56	57	4.7	3.7	34.4	49	69	93	96	176	117	12	41	22	13	163	26
MILWAUKEE	205	-2.6	-11.4	26.9	15.2	7.6	37	38.3	-31.1	785	4135	91	29	738	251	1	134	310	1166	424	75	68	71	82	60	63	5.8	4.3	32.6	45	71	96	99	170	123	13	36	27	9	145	16
WYOMING							118	45.6	-52.8							0	148																								
CASPER	1627	0.9	-10.7	30.6	12.7	7.4	27	40.0	-40.0	720	4197	49	12	285	142	T	76	231	1877	419	68	59	61	70	33	26	7.5	4.5	36.2			110	110	145	92	23	34	9	24	185	18
CHEYENNE	1867	3.4	-9.5	28.7	12.5	7.7	42	37.8	-36.7	661	4030	64	9	372	136	T	87	147	1300	419	54	44	48	68	34	37	7.0	4.7	33.5	61	68	106	128	131	96	16	50	23	10	172	12
LANDER	1696	-0.5	-13.3	30.0	12.8	6.9	31	38.3	-38.3	782	4371	66	11	352	175	T	90	221	2644	587	66	59	59	56	34	28	2.8	3.4	35.8	67	77	115	126	124	71	25	32	3	19	187	20
SHERIDAN	1208	0.8	-13.1	30.1	12.6	7.2	37	41.1	-37.2	758	4282	74	18	410	242	T	98	274	1781	678	68	60	63	73	38	34	3.5	3.2	37.6	55	75	99	111	155	108	23	36	6	22	192	24

NORMALS, MEANS AND EXTREMES

State and Station	Elevation Ground (Meters)	Temperature (°C)								Normal Heating Degree Days (1941-1970)		Precipitation (Millimeters)									Relative Humidity (Percent)						Wind Speed (m.p.s.)			Sunshine (% of Possible)		Annual Mean Number of Days									
		Normal (1941-1970)					Extremes					Normal (1941-1970)			Extremes			Snow @														Sunrise to Sunset							Temperature		
		January		July														Mean Total		Extreme	January			July			Mean Speed												Max	Min	
		Daily Maximum	Daily Minimum	Daily Maximum	Daily Minimum	Annual	Length (Yrs)	Record Highest	Record Lowest	January	Seasonal	Wettest Month	Driest Month	Annual	Wettest Month	Driest Month	Maximum In 24 Hours	January	Seasonal	Maximum In 24 Hours	7 00 a.m. EST	1 00 p.m EST	7 00 p.m EST	7 00 a m EST	1 00 p m. EST	7 00 p.m. EST	January	July	Fastest Mile (1 6 Kilometers)	January	July	Clear	Partly Cloudy	Cloudy	Precipitation 25mm or More	Snow, Sleet, Hail 25.4mm or More	Thunderstorms	Heavy Fog	≥ 32 2 C	≤ 0 C	≤ 17.8°C

Data from airport or from airport and Urban site records combined.
U indicates Urban, R indicates Rural Sites.
Data for this table are based on records through 1976 except as indicated in notes.
Date after station name indicates last year included in summarization of data.
Normal values are based on the period 1941-1970, and are means adjusted to represent observations taken at the present standard location, except that stations closed before 1971 are based on the 1931-1960 period.
Degree days are based on a daily average of 18.3 C.
For detailed periods of record see ANNUAL LOCAL CLIMATOLOGICAL DATA, 1976.
Clear Day averages 0-3 tenths sky cover, Partly Cloudy 4-7 tenths and Cloudy 8-10 tenths.
Heavy Fog includes data formerly referred to as "Dense" or "Thick". The upper visibility limit for heavy fog is 402.3 meters.
* Less than one-half.
B Number of days Maximum 21.1 or above (Alaskan stations).

1 Means and extremes are from post office location through 1962
c Relative Humidity readings 8:00 a.m. and NOON Local Time.

x Sun below horizon continuously Nov. 19 - Jan 23.
v Sun below horizon continuously Nov 24 - Jan. 17
(x and v)-Yearly totals for period sun above horizon
m Mean wind speed record for 1949-1951, 1958-1962.
@ Includes all forms of frozen precipitation, except hail occurring alone.

ELEVATIONS

State and Station		Ft	Mtrs
ALABAMA			
Birmingham		630	192
Huntsville		644	196
Mobile		221	67
Montgomery		202	62
ALASKA			
Anchorage		132	40
Annette		110	34
Barrow		13	4
Barter Island		50	15
Bethel		150	46
Bettles		672	205
Big Delta		1274	389
Cold Bay		103	31
Fairbanks		454	138
Gulkana		1579	481
Homer		73	22
Juneau		24	7
King Salmon		49	15
Kodiak		111	34
Kotzebue		16	5
Mc Grath		338	103
Nome		22	7
St. Paul Island		28	9
Summit		2405	733
Talkeetna		356	180
Unalakleet		21	6
Yakutat		31	9
ARIZONA			
Flagstaff		7018	2139
Phoenix		1107	337
Tucson		2555	779
Winslow		4883	1488
Yuma		206	63
ARKANSAS			
Fort Smith		463	141
Little Rock		265	81
CALIFORNIA			
Bakersfield		492	150
Bishop		4145	1263
Blue Canyon		5283	1610
Eureka	U	60	18
Fresno		327	100
Long Beach		40	12
Los Angeles		104	32
Los Angeles	U	512	156
Mt. Shasta	R	3587	1093
Oakland		7	2
Red Bluff		353	108
Sacramento		25	8
Sandberg	R	4523	1379
San Diego		28	9
San Francisco	U	155	47
San Francisco		18	5
Santa Maria		238	73
Stockton		27	8
COLORADO			
Alamosa		7541	2298
Colorado Springs		6170	1881
Denver		5332	1625
Grand Junction		4839	1475
Pueblo		4720	1439
CONNECTICUT			
Bridgeport		17	5
Hartford		179	55
DELAWARE			
Wilmington		80	24
DISTRICT OF COLUMBIA			
Wash. Dulles Int. AP		323	98
Wash. Nat'l AP		65	20
FLORIDA			
Apalachicola	U	35	11
Daytona Beach		41	12
Fort Myers		12	4
Jacksonville		31	9
Key West		21	6
Lakeland	U	236	72
Miami		12	4
Orlando		119	36
Pensacola		118	36
Tallahassee		68	21
Tampa		11	3
West Palm Beach		21	6
GEORGIA			
Athens		811	247
Atlanta		1034	315
Augusta		148	45
Columbus		394	120
Macon		362	110
Rome		643	196
Savannah		51	16
HAWAII			
Hilo		36	11
Honolulu		15	5
Kahului		67	20
Lihue		148	45

State and Station		FT	Mtrs
IDAHO			
Boise		2868	871
Lewiston		1436	438
Pocatello		4478	1365
ILLINOIS			
Cairo	U	357	109
Chicago (O'Hare)		674	205
Chicago (Midway)		623	190
Moline		594	181
Peoria		662	202
Rockford		743	226
Springfield		613	187
INDIANA			
Evansville		388	118
Fort Wayne		828	252
Indianapolis		808	246
South Bend		773	236
IOWA			
Burlington		702	214
Des Moines		963	294
Dubuque		1080	329
Sioux City		1103	336
Waterloo		878	268
KANSAS			
Concordia		1484	452
Dodge City		2592	790
Goodland		3688	1124
Topeka		885	270
Wichita		1340	408
KENTUCKY			
Covington		877	267
Lexington		989	301
Louisville		488	149
LOUISIANA			
Alexandria		118	36
Baton Rouge		76	23
Lake Charles		32	10
New Orleans		30	9
Shreveport		259	79
MAINE			
Caribou		628	191
Portland		63	19
MARYLAND			
Baltimore		155	47
MASSACHUSETTS			
Blue Hill Obs.	R	640	195
Boston		29	9
Worcester		1017	310
MICHIGAN			
Alpena		693	211
Detroit		626	191
Detroit Metro.		664	202
Flint		766	233
Grand Rapids		803	245
Houghton Lake		1160	354
Lansing		874	266
Marquette	U	734	224
Muskegon		633	193
Sault Ste. Marie		724	221
MINNESOTA			
Duluth		1417	432
International Falls		1183	361
Minneapolis		838	255
Rochester		1320	402
St. Cloud		1043	318
MISSISSIPPI			
Jackson		331	101
Meridian		310	94
MISSOURI			
Columbia, Regional		898	274
Kansas City		750	229
St. Joseph		817	249
St. Louis		564	172
Springfield		1270	387
MONTANA			
Billings		3570	1088
Glasgow		2298	700
Great Falls		3657	1115
Harve		2599	792
Helena		3898	1188
Kalispell		2973	906
Miles City		2634	803
Missoula		3189	972
NEBRASKA			
Grand Island		1856	566
Lincoln		1189	362
Norfolk		1551	473
North Platte		2787	849
Omaha		982	299
Scottsbluff		3958	1206
Valentine		2598	792

State and Station		Ft	Mtrs
NEVADA			
Elko		5077	1547
Ely		6262	1909
Las Vegas		2180	664
Reno		4400	1341
Winnemucca		4314	1314
NEW HAMPSHIRE			
Concord		346	105
Mt. Washington		6267	2056
NEW JERSEY			
Atlantic City		67	20
Newark		30	9
Trenton	U	190	58
NEW MEXICO			
Albuquerque		5314	1620
Clayton		4972	1515
Roswell		3619	1103
NEW YORK			
Albany		292	89
Binghamton		1638	499
Buffalo		706	215
New York	U	87	27
New York Kennedy AP		22	7
New York LaGuardia		31	9
Rochester		555	169
Syracuse		408	124
NORTH CAROLINA			
Asheville		2170	661
Cape Hatteras	R	11	3
Charlotte		769	234
Greensboro		886	270
Raleigh		441	134
Wilmington		38	12
NORTH DAKOTA			
Bismarck		1660	506
Fargo		899	274
Williston		1905	581
OHIO			
Akron		1236	377
Cincinnati Abbe Ob.		627	191
Cleveland		805	245
Columbus		833	254
Dayton		1003	306
Mansfield		1312	400
Toledo		692	211
Youngstown		1186	361
OKLAHOMA			
Oklahoma City		1304	397
Tulsa		676	206
OREGON			
Astoria		22	7
Burns	U	4170	1271
Eugene		373	114
Meacham		4056	1236
Medford		1329	405
Pendleton		1495	456
Portland		39	12
Salem		201	61
Sexton Summit	R	3841	1171
PACIFIC AREA			
Guam Taguac	R	365	111
Johnston		17	5
Korer	R	109	33
Kwajalein		26	8
Majuro		10	3
Pago Pago		10	3
Ponape	R	151	46
Truk Moen Island		8	2
Wake Island		12	4
Yap	R	56	17
PENNSYLVANIA			
Allentown		385	117
Erie		737	225
Harrisburg		351	107
Philadelphia		28	9
Pittsburgh		1225	373
Pittsburgh	U	1017	334
Scranton		948	289
Williamsport		525	160
RHODE ISLAND			
Block Island		118	36
Providence		62	19
SOUTH CAROLINA			
Charleston		48	15
Columbia		225	69
Grnvl-Spartanburg		971	296
SOUTH DAKOTA			
Aberdeen		1300	396
Huron		1289	393
Rapid City		3168	966
Sioux Falls		1427	435

State and Station		Ft	Mtrs
TENNESSEE			
Bristol		1525	465
Chattanooga		688	210
Knoxville		980	299
Memphis		284	87
Nashville		605	184
Oak Ridge	R	914	279
TEXAS			
Abilene		1753	534
Amarillo		3604	1099
Austin		621	189
Brownsville		20	[illegible]
Corpus Christi		44	13
Dallas/Fort Worth		576	176
Del Rio		1027	313
El Paso		3916	1194
Galveston	U	54	16
Houston Intercom		108	33
Lubbock		3241	988
Midland		2862	872
Port Arthur		22	7
San Angelo		1908	582
San Antonio		794	242
Victoria		117	36
Waco		508	155
Wichita Falls		1030	314
UTAH			
Milford		5033	1534
Salt Lake City		4227	1288
Wendover		4239	1292
VERMONT			
Burlington		340	104
VIRGINIA			
Lynchburg		937	286
Norfolk		30	9
Richmond		177	54
Roanoke		1176	358
WASHINGTON			
Olympia		200	61
Quillayute		205	62
Seattle-Tacoma		450	137
Seattle		28	9
Spokane		2365	721
Stampede Pass	R	3967	1209
Walla Walla	U	991	302
Yakima		1066	325
WEST INDIES			
San Juan, P. R.		62	19
WEST VIRGINIA			
Beckley		2514	766
Charleston		951	290
Elkins		1997	608
Huntington		838	255
Parkersburg	U	637	194
WISCONSIN			
Green Bay		702	214
LaCrosse		672	205
Madison		866	264
Milwaukee		693	211
WYOMING			
Casper		5290	1612
Cheyenne		6141	1872
Lander		5558	1694
Sheridan		3968	1209

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

These are the elevations of the barometer (in feet and meters above mean sea level) to which station pressure values pertain in the "Climatological Data" table in the monthly publication CLIMATOLOGICAL DATA NATIONAL SUMMARY.

GENERAL SUMMARY OF TORNADOES, 1977

Henry Vigansky
National Oceanic and Atmospheric Administration
Environmental Data and Information Service
National Climatic Center

The 1977 tornado season began on January 2 at 11:30 p.m. in Goleta, California, when a waterspout came onshore and damaged several "T" hangars, one small airplane, and disrupted electrical service for several hours. The season ended on Christmas morning at Eglin Air Force Base, Florida, when a small tornado destroyed 25% of the roof of the United States Air Force Armament Museum. During the year, 852 tornadoes were reported. The average path length was 1.92 miles (3.1 km), and the mean touchdown time was 4:37 p.m., Central Standard Time. In 1977 tornadoes destroyed or damaged approximately 610 mobile homes, resulting in 7 deaths and injuries to 179 persons.

The following three tables show new monthly records, location of killer tornadoes, and state border crossings:

MONTHLY TORNADO RECORDS

Month	State	New Record	Previous Record
March	Colorado	3	2 (1965)
	Louisiana	11	7 (1974)
May	Montana	3	2 (1962)
	Nebraska	35	32 (1965)
	North Dakota	10	7 (1965)
June	North Carolina	5	3 (1974)
July	North Carolina	4	3 (1976)
August	Colorado	6	5 (1974)
September	Arkansas	3	2 (1973)
	New York	3	2 (1973)
	Nebraska	5	4 (1955)
	Pennsylvania	5	4 (1954)
October	Kentucky	5	0
	Ohio	5	1 (1971)
	Tennessee	5	1 (1955)

KILLER TORNADOES

Date		State	County	Total Deaths
February	23	Mississippi	Winston	2
April	2	Michigan	Eaton	1
	4	Alabama	St. Clair	1
	4	Alabama	Jefferson	22
	4	Georgia	Floyd	1
	21	Louisiana	East Baton Rouge	1
May	4	Missouri	Cass	2
	4	Missouri	Lafayette	1
	15	Oklahoma	Stephens	1
July	31	Wisconsin	Chippewa	1
August	21	Illinois	Coles	6
September	14	Arkansas	Lawrence	1
October	1	Indiana	Harrison	1
December	5	Florida	Putnam	1
	13	Texas	Harris	1

GENERAL SUMMARY OF TORNADOES

STATE BORDER CROSSINGS

May 18	Oklahoma	into	Colorado
June 18	West Virginia	into	Maryland
July 10	Nebraska	into	South Dakota
September 23	Missouri	into	Illinois

Some of the most severe or unusual storms are described briefly in the following paragraphs:

January. Five tornadoes were reported in the following states: California 1, Florida 2, and Mississippi 2. The most destructive of these storms caused extensive damage to an apartment complex in Kissimmee, Florida.

February. On the 23rd, five tornadoes caused approximately $295,000 damage in five central Mississippi counties. At about 4 p.m. a tornado touched down 13 miles (20.9 km) southwest of Louisville, Mississippi, making a sharp turn to the north before lifting 4 miles (6.4 km) north-northwest of the town. The tornado hit the community of Shiloh, destroying 12 homes and one mobile home. It was the first killer tornado of the 1977 season, taking the life of 3-year-old Robert Yates, Jr. Mrs. Sam Ingram died 13 days later from injuries inflicted by the storm.

March. Tornadic activity increased sharply; 64 tornadoes were reported in March, 14 more than the 25-year monthly average. Louisiana reported 11 tornadoes. One of these storms, on the 28th, ripped a 10-mile (16.1 km) path of destruction through Lafayette Parish, and completely destroyed the mobile home of Mr. Milton Trahan, who escaped serious injury by wrapping himself in a mattress when he heard the approaching storm. Glass was blown out of the Lafayette Airport control tower, four aircraft were destroyed, and five others damaged. Numerous homes and trailers were damaged throughout the area.

April. On April 2, a fast moving line of thunderstorms moved from Holland to Bad Axe, Michigan, spawning six destructive tornadoes. These storms damaged or destroyed 125 homes, 12 mobile homes, two apartment complexes, several business establishments, two schools and numerous barns and outlying buildings. This outbreak was responsible for the death of a 5-year-old boy, injuries to 62 people, and left 130 families homeless. Seven tornadoes were reported in Alabama on April 4. At 3 p.m. a violent tornado touched down 4 miles (6.4 km) northwest of downtown Birmingham, moved northeast at about 60 miles an hour (96.6 km/hr), and finally lifted just east of Tarrant, Alabama. This massive storm was responsible for 22 deaths and 130 injuries. One hundred sixty-seven homes were destroyed, 48 sustained major damage, and damage to the Daniel Payne College was estimated at $1.3 million. Overall damage was estimated at $15 million.

May. May had the usual increase in tornadic activity; 229 tornadoes were reported, the third highest May since 1953. Four fatalities and 97 injuries were recorded. Nebraska, Oklahoma and Texas accounted for over 50 percent of these storms.

During the time period of about 11:40 a.m. through 5:50 p.m. on May 4, six tornadoes left a 119-mile (191.5 km) path of destruction in Bates, Carroll, Cass, Clay, Jackson, Lafayette, Pettis, Ray and Saline Counties, Missouri. Property destroyed or damaged included approximately 885 homes, 20 mobile homes, two dormitories, numerous businesses, and several schools; some of the damaged schools did not reopen for the remainder of the school year. Due to the accurate and timely tornado watches and warnings issued by the National Severe Storms Forecast Center, fatalities were limited to three, and only 60 people were injured.

June. On June 5 at 8:30 p.m., a huge tornado touched down southeast of Ripon and moved south-southeast to Tess Corners, Wisconsin. The maximum width of the tornado was 1/4 mile (.4 km). It was on the ground for 1 hour and 25 minutes, and left a 73-mile (117.5 km) trail of devastation. Fortunately, this storm caused no fatalities, and only eight people were injured. Property damage was estimated in excess of $6 million.

July. A marked decrease in tornado activity was noted this month. One hundred tornadoes occurred on 27 days. There was one death, and 61 people were injured.

During the evening of the 30th, four destructive tornadoes swept through west-central Wisconsin with extensive property and crop damage reported in six counties. One person was killed southeast of Holcombe when an automobile was picked up and deposited 70 yards (64 m) off the highway; the body was recovered 1,000 yards (914 m) beyond the vehicle.

August. Illinois accounted for 20 tornadoes on two days. Nineteen of these storms were reported on the 6th, and 18 of them initially touched down in Sangamon County. Two of these storms moved into Christian County and one into Morgan County. On the 21st, another tornado touched down 2 miles (3.2 km) west of Windsor, crossing the southwest corner of Lake Mattoon, and destroying or severely damaging approximately 50 mobile homes located at the Prahl Trailer Court. The storm continued on its east-southeast course and finally lifted 2 miles (3.2 km) west-southwest of Greenup. Six people were killed; three were known to have been in mobile homes when the tornado struck. The other three were found in ditches and fields. Nearly all of the 56 injuries occurred in mobile homes. This was the first killer tornado recorded in the state of Illinois during the month of August since records have been kept.

For the third consecutive month Wisconsin was plagued by destructive tornadoes. One of the storms touched down at 7:15 p.m. on the 31st, and skipped eastward across Marathon County, injuring 10 people. Total property losses were estimated in excess of $3.5 million.

September. A killer tornado touched down in Ponders, Arkansas, on the 14th and totally destroyed one home, killing one person and injuring three others.

October. Kentucky reported five tornadoes which exceeded the entire 1916-1976 total for October. On October 1, Indiana recorded two twisters; one of them touched down near Corydon, demolishing a mobile home. Mr. Michael Wiseman was found lying unconscious about 200 feet (61 m) from the home foundation, and he died the following morning. His wife, Ellen, received multiple injuries and was admitted to a local hospital in satisfactory condition.

November. Twenty-four tornadoes on 10 days were recorded in November. No fatalities and only eight injuries were reported.

December. Twenty-three tornadoes were reported on seven days, causing two deaths and 74 injuries. On December 5, a large tornado touched down 4 miles (6.4 km) west of Palatka, Florida, and moved east through the town, killing one person and injuring 10 others. The storm caused extensive damage to numerous homes, automobiles, businesses, and the Palatka High School football stadium. Also, a historic boating marina and several boats were destroyed. At 8:05 a.m. on the 13th, a tornado touched down in the northeast section of Houston, Texas, and destroyed or damaged 140 homes, 31 mobile homes and 13 business establishments. One fatality occurred when a pickup truck was thrown off the highway into a wooded area.

Additional information is presented in the following tables and charts. More detailed information about tornado activity can be obtained from the monthly Storm Data publications.

TORNADO SUMMARY 1977

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
ALABAMA													
Number		1	3	7	1	2	2		3	1	1		21
Days		1	1	1	1	2	2		1	1	1		11
Deaths				23									23
Injuries			5	138									143
ALASKA													
(None)													
ARIZONA													
Number			1				1						2
Days			1				1						2
Deaths													0
Injuries													0
ARKANSAS													
Number		1	4	1	4	2	1		4		2	1	20
Days		1	2	1	3	2	1		2		2	1	15
Deaths									1				1
Injuries		1	1			2			3				7
CALIFORNIA													
Number	1		1		1								3
Days	1		1		1								3
Deaths													0
Injuries			4										4
COLORADO													
Number			3	2	7	10	4	6					32
Days			1	2	3	5	3	4					18
Deaths													0
Injuries						2		1					3
CONNECTICUT													
(None)													
DELAWARE													
Number			1			1		1					3
Days			1			1		1					3
Deaths													0
Injuries						1							1
DISTRICT OF COLUMBIA													
(None)													
FLORIDA													
Number	2	3			3	9	8	3	1	3		3	35
Days	2	2			3	9	8	3	1	2		3	33
Deaths												1	1
Injuries							8					10	18
GEORGIA													
Number		1	2	5		3	2	1	2		1		17
Days		1	1	2		3	2	1	1		1		12
Deaths				1									1
Injuries			4	16				1	1				22
HAWAII													
(None)													
IDAHO													
(None)													
ILLINOIS													
Number					1	8	1	20	3				33
Days					1	1	1	2	2				7
Deaths								6					6
Injuries					2			56	3				61
INDIANA													
Number			1	1	5	4	1			2			14
Days			1	1	4	1	1			1			9
Deaths										1			1
Injuries					1	2				2			5

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
IOWA													
Number		1	1		17	5	4	6	2				36
Days		1	1		4	3	4	2	1				16
Deaths													0
Injuries		1			19	2		1					23
KANSAS													
Number			1		9	3	1	2					16
Days			1		5	3	1	1					11
Deaths													0
Injuries					2								2
KENTUCKY													
Number				2		3		1		5		1	12
Days				1		1		1		1		1	5
Deaths													0
Injuries				1		6				16			23
LOUISIANA													
Number			11	3	5	2	2		9	1	8	1	42
Days			3	3	4	1	2		4	1	6	1	25
Deaths				1									1
Injuries			5	12			3		3		6	1	30
MAINE													
Number								1					1
Days								1					1
Deaths													0
Injuries													0
MARYLAND													
Number						1		1					2
Days						1		1					2
Deaths													0
Injuries													0
MASSACHUSETTS													
Number						1		1					2
Days						1		1					2
Deaths													0
Injuries								2					2
MICHIGAN													
Number			2	6	3	1	10	5	4				31
Days			2	1	3	1	9	4	3				23
Deaths				1									1
Injuries			3	62			3		1				69
MINNESOTA													
Number					8	4	9	3	1				25
Days					7	3	5	2	1				18
Deaths													0
Injuries							12	23					35
MISSISSIPPI													
Number	2	5	7	5	2	2	2	2	3	1		4	35
Days	1	1	3	2	1	2	2	2	3	1		3	21
Deaths		2											2
Injuries		6	4	1			1					9	21
MISSOURI													
Number		1	1	1	9	1		1	1		2		17
Days		1	1	1	3	1		1	1		2		11
Deaths					3								3
Injuries			2		60	4							66
MONTANA													
Number					3	3							6
Days					2	2							4
Deaths													0
Injuries													0

TORNADO SUMMARY 1977

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
NEBRASKA													
Number				4	35	8	8	8	5				68
Days				4	11	6	6	6	4				37
Deaths													0
Injuries				1									1
NEVADA													
Number						1		1					2
Days						1		1					2
Deaths													0
Injuries													0
NEW HAMPSHIRE (None)													
NEW JERSEY													
Number								1	1				2
Days								1	1				2
Deaths													0
Injuries								1					1
NEW MEXICO													
Number				2	3	2			1				8
Days				1	2	2			1				6
Deaths													0
Injuries					2	1							3
NEW YORK													
Number				1		1			3				5
Days				1		1			3				5
Deaths													0
Injuries									1				1
NORTH CAROLINA													
Number		1	7	2	3	5	4	1	1	1	2		27
Days		1	1	2	2	3	4	1	1	1	2		18
Deaths													0
Injuries			6			6							12
NORTH DAKOTA													
Number					10	10	9	1					30
Days					5	7	7	1					20
Deaths													0
Injuries						1							1
OHIO													
Number			1	4		12				5			22
Days			1	1		1				2			5
Deaths													0
Injuries				6		24				17			47
OKLAHOMA													
Number		1	11	4	31	3	2	2					54
Days		1	3	2	8	1	2	2					19
Deaths					1								1
Injuries		4	6		8								18
OREGON (None)													
PACIFIC (None)													
PENNSYLVANIA													
Number			1	2		1	3	1	5				13
Days			1	2		1	2	1	2				9
Deaths													0
Injuries				1				1	9				11
PUERTO RICO (None)													

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
RHODE ISLAND (None)													
SOUTH CAROLINA													
Number		2	1		1	2			1			5	12
Days		1	1		1	1			1			1	6
Deaths													0
Injuries					5							8	13
SOUTH DAKOTA													
Number					14	2	11		1				28
Days					6	2	2		1				11
Deaths													0
Injuries													0
TENNESSEE													
Number			1			2		1	1	5	2	3	15
Days			1			2		1	1	2	1	2	10
Deaths													0
Injuries										13	2	5	20
TEXAS													
Number			3	34	50	4	5	5	12		6	4	123
Days			3	7	14	3	4	4	5		2	2	44
Deaths												1	1
Injuries				18								41	59
UTAH (None)													
VERMONT (None)													
VIRGINIA													
Number				1		2	4	3		1		1	12
Days				1		2	4	3		1		1	12
Deaths													0
Injuries							2	1					3
VIRGIN ISLANDS (None)													
WASHINGTON (None)													
WEST VIRGINIA													
Number						1	1						[illegible]
Days						1	1						[illegible]
Deaths													[illegible]
Injuries						5	4						[illegible]
WISCONSIN													
Number				1	[illegible]	2	[illegible]	4	1				[illegible]
Days				1	1	1	1	4	1				[illegible]
Deaths							1						1
Injuries				[illegible]		8	[illegible]	11					[illegible]
WYOMING													
Number					[illegible]	11			1				[illegible]
Days					1	[illegible]			1				7
Deaths													0
Injuries													0
TOTAL													
Number	[illegible]	11	44	[illegible]	[illegible]*	[illegible]*	[illegible]*	[illegible]	65*	[illegible]	[illegible]	[illegible]	[illegible]*
Days†	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Deaths	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Injuries	[illegible]	[illegible]	40	[illegible]	[illegible]	[illegible]	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

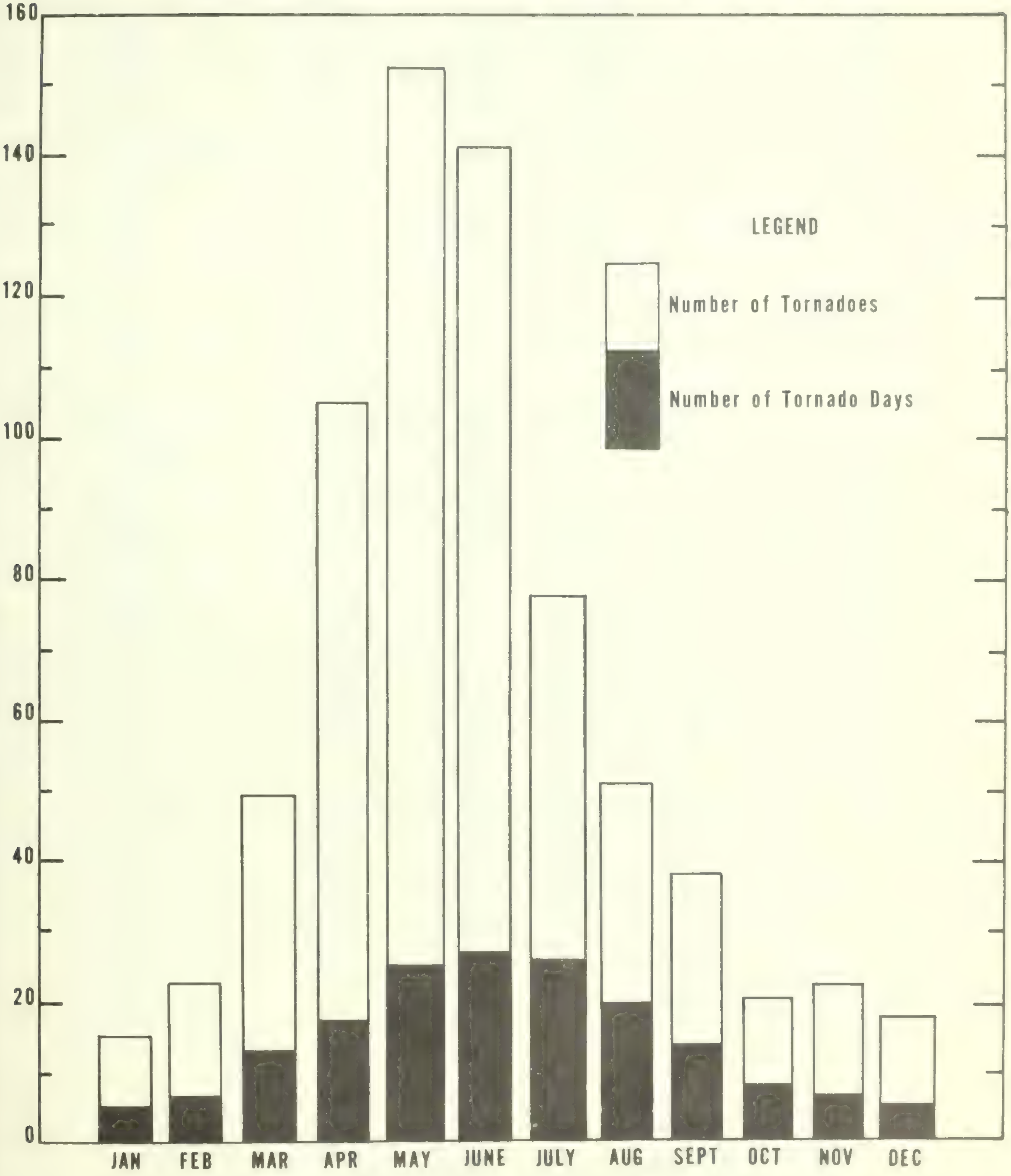
* Corrected for boundary-crossing tornadoes
† Tornado Days for Country as a whole

NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS BY MONTHS, 1953-77

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			ANNUAL		
YEAR	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS	NUMBER	DAYS	DEATHS
1953	14	6	0	16	3	3	40	10	24	47	16	34	94	21	161	111	24	244	31	19	0	24	15	0	5	4	0	6	4	0	12	6	0	21	8	49	421	136	515
1954	2	1	0	17	9	2	63	13	10	112	22	3	101	22	9	107	26	5	45	23	0	49	21	1	21	10	3	14	8	2	2	2	0	17	3	1	550	160	36
1955	3	2	0	4	3	0	43	15	5	99	18	7	147	26	103	154	26	2	49	21	5	33	18	0	15	8	2	23	9	1	20	4	1	3	2	0	593	152	126
1956	2	2	0	47	12	8	31	7	1	85	15	67	79	24	4	65	21	0	91	26	1	43	20	2	16	10	0	29	6	0	7	6	0	9	4	0	504	155	83
1957	17	3	13	5	3	0	38	7	1	216	21	29	227	26	87	147	25	14	55	19	0	20	14	0	17	10	2	18	11	2	58	11	25	38	4	19	856	154	192
1958	12	7	0	20	5	13	15	10	0	76	19	4	68	21	0	127	27	42	121	30	1	46	20	1	24	14	1	9	6	4	45	6	0	1	1	0	564	166	66
1959	16	2	3	20	5	21	43	11	9	30	12	1	226	28	8	73	25	2	63	24	0	38	18	0	58	15	14	24	10	0	11	4	0	2	2	0	604	156	58
1960	9	4	0	28	10	0	28	10	0	70	20	7	201	26	34	124	27	3	43	22	0	47	23	1	22	13	0	18	10	1	25	6	0	1	1	0	616	172	46
1961	1	1	0	31	8	0	124	17	7	74	19	3	137	25	23	107	25	2	77	27	0	27	16	0	53	16	15	14	5	0	36	7	1	16	5	0	697	169	51
1962	12	3	1	25	7	0	37	9	17	41	8	1	200	22	3	171	29	0	78	26	0	51	21	6	24	11	0	11	10	0	5	4	0	2	2	0	657	152	28
1963	15	5	1	6	3	0	48	12	8	84	14	16	71	21	1	91	23	0	62	26	0	26	13	2	33	13	3	13	5	0	15	6	0	0	0	0	464	141	31
1964	14	3	10	2	2	0	36	11	6	157	23	15	135	20	16	136	24	0	63	23	0	79	23	2	25	10	0	22	4	22	17	6	0	18	5	2	704	156	73
1965	21	11	0	32	4	0	34	9	2	129	20	264	275	25	17	147	28	6	86	26	0	61	23	1	64	21	0	16	4	1	34	6	5	7	4	0	906	181	296
1966	1	1	0	28	5	0	12	6	58	80	20	12	98	17	0	126	28	19	100	27	3	58	21	0	22	13	0	29	6	6	20	3	0	11	3	0	585	150	98
1967	39	4	7	8	5	0	42	14	3	149	18	73	116	25	3	210	28	6	90	25	1	28	16	2	139	16	5	36	7	4	8	5	0	61	10	10	926	173	114
1968	5	3	0	7	3	0	28	8	0	102	15	40	145	26	72	136	27	11	56	22	2	66	23	2	25	14	0	14	9	0	44	12	3	32	9	1	660	171	131
1969	3	1	32	5	5	0	8	2	1	68	15	2	145	25	4	137	28	7	99	27	0	69	21	19	20	11	0	26	10	0	5	3	0	23	7	1	608	155	66
1970	9	5	0	16	3	0	25	12	2	117	16	29	88	19	26	134	24	6	81	26	3	55	21	0	54	20	0	50	13	6	10	4	0	14	8	0	653	171	72
1971	18	7	1	83	12	131	40	13	2	75	14	11	166	24	7	199	28	1	100	30	1	50	21	0	47	15	0	38	12	0	16	7	0	56	9	2	888	192	156
1972	33	10	5	7	4	0	69	17	0	96	20	16	140	27	0	114	25	2	115	29	0	59	23	2	49	19	0	34	10	0	17	4	2	8	6	0	741	194	27
1973	33	7	1	10	4	0	80	16	17	150	22	10	250	26	35	224	26	2	80	26	0	51	23	4	69	22	3	25	11	0	81	11	12	49	12	3	1102	206	87
1974	24	8	2	23	9	0	36	12	1	269	22	313	144	28	10	194	26	31	59	19	0	107	26	0	25	11	0	45	10	4	13	8	0	8	5	0	947	184	361
1975	52	7	12	45	12	7	84	16	12	108	20	13	188	30	5	196	28	6	79	26	2	60	25	2	34	17	0	12	7	0	40	8	0	22	8	1	920	204	60
1976	12	5	0	37	6	5	180	18	21	113	23	1	155	24	8	169	26	3	84	28	2	38	18	1	35	15	3	11	5	0	0	0	0	1	1	0	835	169	44
1977	5	4	0	17	3	2	64	15	0	88	15	26	228	29	4	132	27	0	99	27	1	82	26	6	65	21	1	25	5	1	24	10	0	23	7	2	852	189	43
1953-77																																							
TOTAL	372	112	88	539	145	192	1248	290	207	2635	447	997	3824	607	640	3531	651	414	1906	624	22	1267	509	54	961	349	52	562	197	54	565	151	49	443	126	91	17853	4208	2860
MEAN	15	4	4	22	6	8	50	12	8	105	18	40	153	24	26	141	26	17	76	25	1	51	20	2	38	14	2	22	8	2	23	6	2	18	5	4	714	168	114

AVERAGE NUMBER OF TORNADOES AND TORNADO DAYS EACH MONTH IN THE UNITED STATES

(BASED ON 17,853 TORNADOES THAT OCCURRED FROM 1953 – 1977)



NUMBER OF TORNADOES, TORNADO DAYS, DEATHS, AND RESULTING LOSSES BY YEARS, 1916-77

YEAR	Number Tornadoes	Tornado Days	Total Deaths	Most Deaths in Single Tornado	Total Property Losses †	BY CATEGORY*		
						Category 5	Category 6	Category 7 and Over
1916	90	36	150	30	6	7	1	0
1917	121	38	551	101	7	21	9	0
1918	81	45	136	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	499	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	110	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	95	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	71	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	91	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	139	33	7	62	11	2
1949	249	80	211	58	7	54	13	0
1950	200	88	70	18	7	47	9	0
1951	262	113	34	6	7	35	11	2
1952	240	98	229	57	7	53	19	0
1953	421	136	515	116	8	63	18	7
1954	550	160	36	6	7	63	8	1
1955	593	152	126	80	7	74	13	1
1956	504	155	83	25	7	83	24	1
1957	856	154	192	44	8	129	26	3
1958	564	166	66	19	7	70	8	1
1959	604	156	58	21	7	70	4	1
1960	616	172	46	16	7	65	11	1
1961	697	169	51	16	7	103	21	1
1962	657	152	28	17	7	51	10	0
1963	464	141	31	5	7	77	15	1
1964	704	156	73	22	7	113	17	5
1965	906	181	296	44	8	126	30	11
1966	585	150	98	58	8	79	13	4
1967	926	173	114	33	8	125	33	8
1968	660	171	131	34	8	82	26	6
1969	608	155	66	32	8	98	16	3
1970	653	171	72	26	8	97	24	6
1971	888	192	156	58	8	71	30	5
1972	741	194	27	6	8	100	28	1
1973	1102	206	87	7	9	219	67	9
1974	947	184	361	34	9	166	82	25
1975	920	204	60	9	9	189	31	11
1976	835	169	44	5	8	145	41	5
1977	852	189	43	22	8	173	40	6
Means: 1953-77	714	168	114	---	---	105	25	5

NOTE: - - The above estimated losses are based on values at time of occurrence.

† Storm damages in categories:

5. $50,000 to $500,000
6. $500,000 to $5 million
7. $5 million to $50 million
8. $50 million to $500 million
9. $500 million and over.

*Number of times property losses reported in Storm Data in Categories 5, 6, 7 and over.

NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS BY STATES, 1953-77

STATE	TORNADOES							DAYS		DEATHS		
	TOTAL	AVERAGE	GREATEST	YEAR	LEAST	YEAR	Per # 10 000 Sq.Mi	TOTAL	AVERAGE	TOTAL	AVERAGE	Per @ 10 000 Sq.Mi.
Alabama	491	20	45	1973+	5	1956	3.81	267	11	202	8	39
Alaska	1	0	1	1959	0	1977+	.00	1	0	0	0	0
Arizona	94	4	17	1972	0	1965+	.33	78	3	3	0	0
Arkansas	462	18	50	1973	2	1969+	3.48	247	10	118	5	22
California	71	3	10	1958	0	1968+	.18	52	2	0	0	0
Colorado	380	15	42	1976	1	1959	1.46	252	10	2	0	0
Connecticut	40	2	8	1973	0	1977+	3.19	36	1	1	0	2
Delaware	24	1	5	1975	0	1974+	4.67	22	1	0	0	0
District of Columbia	0	0	0	-	0	-	.00	0	0	0	0	0
Florida	915	37	97	1975	10	1956	6.25	607	24	47	2	8
Georgia	528	21	46	1971+	7	1960	3.59	308	12	72	3	12
Hawaii	15	1	4	1971	0	1977+	.93	12	0	0	0	0
Idaho	33	1	5	1967+	0	1977+	.16	25	1	0	0	0
Illinois	711	28	107	1974	4	1953	5.04	324	13	128	5	23
Indiana	567	23	48	1973	6	1972+	6.25	267	11	199	8	55
Iowa	651	26	54	1964	7	1956+	4.63	304	12	41	2	7
Kansas	1138	46	97	1955	14	1976	5.53	518	21	143	6	17
Kentucky	202	8	34	1974	0	1953	2.00	112	4	98	4	24
Louisiana	499	20	55	1974	3	1955	4.11	312	12	82	3	17
Maine	68	3	11	1971	0	1964+	.82	60	2	1	0	0
Maryland	58	2	10	1975	0	1970+	2.19	52	2	1	0	1
Massachusetts	104	4	12	1958	0	1959	5.04	75	3	97	4	117
Michigan	384	15	39	1974	2	1959	2.64	224	9	226	9	39
Minnesota	403	16	34	1968	5	1972	1.92	248	10	69	3	8
Mississippi	566	23	44	1973	5	1964	4.74	304	12	309	12	65
Missouri	733	29	79	1973	6	1953	4.21	351	14	120	5	17
Montana	91	4	10	1975+	0	1974+	.25	71	3	0	0	0
Nebraska	885	35	78	1975	10	1966	4.58	438	18	44	2	6
Nevada	16	1	4	1964	0	1976+	.06	15	1	0	0	0
New Hampshire	56	2	9	1963	0	1977+	2.41	50	2	0	0	0
New Jersey	41	2	8	1973	0	1972+	2.09	33	1	0	0	0
New Mexico	213	9	18	1972	0	1953	.70	158	6	3	0	0
New York	85	3	8	1976	0	1953	.69	73	3	2	0	0
North Carolina	287	11	38	1973	2	1970	2.18	180	7	21	1	4
North Dakota	384	15	52	1976	2	1961	2.17	227	9	16	1	2
Ohio	345	14	43	1973	3	1966	3.35	189	8	147	6	36
Oklahoma	1380	55	107	1957	28	1976	7.89	582	23	170	7	24
Oregon	23	1	3	1975+	0	1977+	.09	19	1	0	0	0
Pacific	1	0	1	1975	0	1977+	.00	1	0	0	0	0
Pennsylvania	172	7	23	1976	0	1959	1.52	131	5	6	0	1
Puerto Rico	7	0	2	1969	0	1977+	.82	6	0	0	0	0
Rhode Island	1	0	1	1972	0	1977+	.33	1	0	0	0	0
South Carolina	232	9	23	1973	1	1970+	2.99	161	6	24	1	8
South Dakota	572	23	64	1965	1	1958	2.97	291	12	7	0	1
Tennessee	283	11	44	1974	1	1962	2.68	150	6	72	3	17
Texas	2898	116	232	1967	32	1953	4.34	1217	49	315	13	12
Utah	32	1	5	1970+	0	1977+	.15	25	1	0	0	0
Vermont	25	1	5	1962	0	1977+	1.04	21	1	0	0	0
Virginia	140	6	22	1975	1	1963+	1.37	100	4	14	1	3
Virgin Islands	1	0	1	1976	0	1977+	.00	1	0	0	0	0
Washington	24	1	4	1972	0	1977+	.14	18	1	6	0	1
West Virginia	47	2	6	1974	0	1960+	.78	37	1	1	0	0
Wisconsin	430	17	33	1964	3	1953	3.06	241	10	52	2	9
Wyoming	176	7	24	1976	0	1970	.72	133	5	1	0	0
TOTAL: United States	*17853	714	1102	1973	421	1953	1.97	†4208	168	2860	114	8

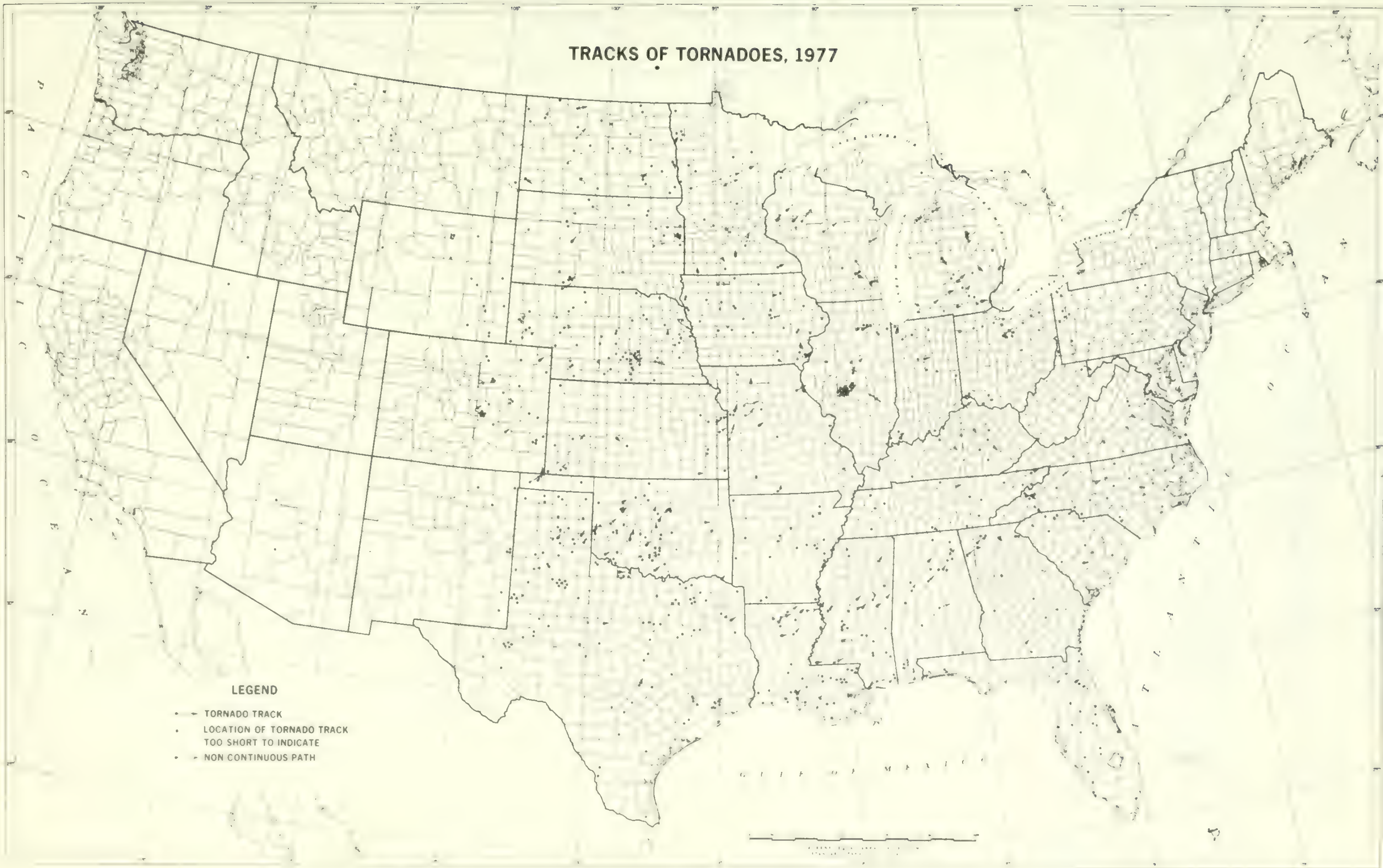
+ Also in earlier year(s).
* Corrected for boundary-crossing tornadoes.
† Tornado Days for Country as a whole.

# Mean annual tornadoes per 10,000 square miles.
@ Number of deaths per 10,000 square miles -- 1953-77.

NUMBER OF FUNNEL CLOUDS 1977

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
Alabama						1							1
Alaska													0
Arizona													0
Arkansas		2	7	8	2	9	9		6			1	44
California					7								7
Colorado				2	1			7					10
Connecticut													0
Delaware													0
District of Columbia													0
Florida					5	2	16	6	9	1	7		46
Georgia													0
Hawaii	1			1		2			3	1	1		9
Idaho					2	3							5
Illinois		1							3				4
Indiana						3	2	6					11
Iowa		1		1	15	5	10	7					39
Kansas				12	31	1		2	1				47
Kentucky													0
Louisiana			3		2	1		4	3		1		14
Maine							1						1
Maryland													0
Massachusetts													0
Michigan				4	3	11	26	1	8				53
Minnesota					14	7	11	19	4				55
Mississippi			1	2	2	1		2	2	1			11
Missouri					5				7				12
Montana					1	2			1				4
Nebraska				11	29	35	18	5	10				108
Nevada								3					3
New Hampshire													0
New Jersey													0
New Mexico						3		3					6
New York													0
North Carolina						6							6
North Dakota					14	7	15	7					43
Ohio					2	30	5	1		3			41
Oklahoma			9	17	19	1		1	2				49
Oregon													0
Pacific													0
Pennsylvania				1					6				7
Puerto Rico													0
Rhode Island													0
South Carolina													0
South Dakota					19	9							28
Tennessee				1									1
Texas			13	54	83	7	18	10	21		5	2	213
Utah													0
Vermont													0
Virginia						2							2
Virgin Islands													0
Washington													0
West Virginia							1						1
Wisconsin								8					8
Wyoming						9							9
TOTAL	1	4	33	114	256	157	132	92	86	6	14	3	898

TRACKS OF TORNADOES, 1977



GENERAL SUMMARY OF LIGHTNING, 1977

Henry Vigansky
National Oceanic and Atmospheric Administration
Environmental Data and Information Service
National Climatic Center

The following lightning statistics were derived from the monthly Storm Data publication, published by the National Climatic Center, Asheville, North Carolina. These tables are subject to change upon receipt of later and more detailed information. Additional information may be obtained from the following sources:

1. Mogil, H. M., M. Rush and M. Kuta, 1977: Lightning -- A preliminary Reassessment, *Weatherwise*, 30, 192-200.

2. Zegel, F. H. 1967: Lightning Deaths in the United States: A Seven-Year Survey from 1959 to 1965. *Weatherwise*, 20, 168-173, 179.

LIGHTNING FATALITIES, 1977

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
Alabama						1	3	1					5
Alaska													0
Arizona							1						1
Arkansas						1		1					2
California													0
Colorado							3						3
Connecticut													0
Delaware													0
District of Columbia													0
Florida					2	1			2				5
Georgia						2	1	1					4
Hawaii													0
Idaho						1							1
Illinois								2					2
Indiana				1		1							2
Iowa								6	2	1			9
Kansas									1				1
Kentucky													0
Louisiana					2	2	2						6
Maine							1						1
Maryland								1					1
Massachusetts								1					1
Michigan								1					1
Minnesota					1		1		2				4
Mississippi					1		1		2				4
Missouri						1			1				2
Montana													0
Nebraska													0
Nevada						1							1
New Hampshire						1							1
New Jersey								3	1				4
New Mexico							1	2					3
New York								5					5
North Carolina					1	1							2
North Dakota													0
Ohio				1				2					3
Oklahoma				1			1	1					3
Oregon													0
Pacific													0
Pennsylvania					2	2	1	2					7
Puerto Rico													0
Rhode Island													0
South Carolina								1					1
South Dakota													0
Tennessee				1		3		2					6
Texas								1	1				2
Utah													0
Vermont													0
Virginia									1				1
Virgin Islands													0
Washington													0
West Virginia								1					1
Wisconsin									1				1
Wyoming								1					1
TOTAL	0	0	0	4	9	18	16	35	14	1	0	0	97

LIGHTNING INJURIES, 1977

STATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
Alabama						1	4						5
Alaska													0
Arizona													0
Arkansas					8	1	2		1				12
California													0
Colorado							1	5					6
Connecticut							1	1	1				3
Delaware						1							1
District of Columbia													0
Florida					2	2	4	8	13				29
Georgia				1		4	2	3					10
Hawaii													0
Idaho						2							2
Illinois					1	11	1	3					16
Indiana				1		1	1						3
Iowa						1	3	2	1	2			9
Kansas							1	1					2
Kentucky													0
Louisiana							5	1			1		7
Maine													0
Maryland					1								1
Massachusetts					1	2	4		1	2			10
Michigan					8	2	4	1					15
Minnesota					1				4				5
Mississippi						2	3		1				6
Missouri					1		1						2
Montana													0
Nebraska									1				1
Nevada													0
New Hampshire						7							7
New Jersey									4				4
New Mexico						1	1	2	1				5
New York					2		1	9	2				14
North Carolina					1	2		6	4				13
North Dakota					1								1
Ohio					2	5	1	2	25				35
Oklahoma					3	2		5					10
Oregon													0
Pacific													0
Pennsylvania					2		8	7					17
Puerto Rico													0
Rhode Island								1					1
South Carolina								1					1
South Dakota													0
Tennessee					1	4	10	4	2				21
Texas				2				1	2	1	1		7
Utah													0
Vermont													0
Virginia						1							1
Virgin Islands													0
Washington								2					2
West Virginia													0
Wisconsin								1					1
Wyoming						6		1					7
TOTAL	0	0	0	4	35	58	58	67	62	4	4	0	292

LIGHTNING FATALITIES AND INJURIES BY YEAR, 1959–77

LIGHTNING FATALITIES

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1959	1		1	4	18	22	48	40	13	7			154
1960			1	7	7	35	25	17	9				101
1961			1	2	9	23	47	20	10	1			113
1962			3	6	28	20	26	27	9	1			120
1963			4	3	11	36	43	21	10	2		81	211
1964			9	6	15	21	29	19	7	1	1		108
1965			2	4	12	32	39	27	6	2			124
1966			1	1	8	15	19	17	11	3			75
1967	1		1	2	3	26	21	14	3	2	1	1	75
1968				1	5	24	30	29	9	3		2	103
1969			1	5	14	15	29	13	14	3			94
1970				1	17	25	27	19	22	1			112
1971			2	1	12	27	33	19	19				113
1972			1	1	5	21	31	29	3	1			92
1973		1	2	3	11	24	32	19	13	2	3		110
1974		2		7	13	20	28	24	6		2		102
1975		1	3	3	11	19	28	18	6	2			91
1976				1	9	19	20	20	3	2			74
1977				4	9	18	16	35	14	1			97
TOTAL	2	4	32	62	217	442	571	427	187	34	7	84	2069
Average	0	0	2	3	11	23	30	22	10	2	0	4	109

LIGHTNING INJURIES

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1959				5	27	49	110	100	23	3	1	1	319
1960			1	12	12	73	25	49	16	9	4		201
1961			7	14	15	41	83	50	31	5	1	1	248
1962			3	5	40	34	88	48	12	6			236
1963	7		2	5	12	62	55	44	18	1			206
1964			8	14	14	33	99	53	8				229
1965	3	2	2	4	25	42	58	58	19	1			214
1966		2	1	1	37	38	44	44	14	1			182
1967				4	7	35	59	33	76	2			216
1968			4	1	15	42	115	150	14	9	1		351
1969				4	19	74	42	18	12			1	170
1970			1	5	38	39	74	43	43	4	1		248
1971		1		1	22	68	77	55	21	1	1		247
1972			8	4	12	24	72	54	15	2	1		192
1973			10	1	20	21	72	62	30	9	2		227
1974	1	9	1	3	13	27	54	47	13	1			169
1975	4	3		1	20	59	104	157	43	1		1	393
1976		1		5	15	38	78	68	13	1		1	220
1977				4	35	58	58	67	62	4	4		292
TOTAL	15	18	48	93	398	857	1367	1200	483	60	16	5	4560
Average	1	1	3	5	21	45	72	63	25	3	1	0	240

HAILSTORMS LOSSES FOR PAST YEARS

Year	Property (exclusive of crops)	Crops	Total
1933	–	–	7
1934	–	–	7
1935	–	–	7
1936	6	7	7
1937	6	7	7
1938	6	7	7
1939	5	6	6
1940	6	7	7
1941	6	7	7
1942	6	7	7
1943	6	7	7
1944	7	7	8
1945	6	7	7
1946	7	7	7
1947	6	8	8
1948	7	8	8
1949	7	7	7
1950	7	7	7
1951	7	7	8
1952	7	7	7
1953	7	7	7
1954	7	8	8
1955	7	7	8
1956	7	8	8
1957	7	8	8
1958	7	8	8
1959	6	7	7
1960	7	8	8
1961	8	8	8
1962	9	8	9
1963	8	8	8
1964	8	8	8
1965	8	8	8
1966	8	8	8
1967	8	8	8
1968	8	8	8
1969	8	8	8
1970	8	8	8
1971	7	8	8
1972	7	7	8
1973	7	7	8
1974	7	7	8
1975	7	8	8
1976	7	8	8
1977	7	8	8

† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50	4	$5,000 to $50,000	7	$5 million to $50 million
2	$50 to $500	5	$50,000 to $500,000	8	$50 million to $500 million
3	$500 to $5,000	6	$500,000 to $5 million	9	$500 million to $5 billion.

NOTE.--The above estimated losses are based on values at time of occurrence.

WINDSTORM LOSSES PAST YEARS

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss
1916	65	7
1917	25	6
1918	79	7
1919	344	7
1920	42	6
1921	65	7
1922	133	7
1923	68	7
1924	78	7
1925	88	7
1926	357	8
1927	64	7
1928	1,947	8
1929	46	7
1930	49	7
1931	17	7
1932	306	7
1933	156	8
1934	109	7
1935	461	7
1936	121	7
1937	43	7
1938	630	8
1939	60	6
1940	251	7
1941	43	7
1942	68	7
1943	61	7
1944	448	8
1945	85	7
1946	70	7
1947	117	8
1948	52	8
1949	102	8
1950	210	8
1951	289	8
1952	137	8
1953	118	8
1954	292	9
1955	301	8
1956	196	8
1957	553	8
1958	129	8
1959	145	7
1960	85	8
1961	64	8
1962	134	9
1963	54	9
1964	64	9
1965	107	9
1966	74	8
1967	48	8
1968	49	8
1969	194	9
1970	64	8
1971	76	8
1972	103	8
1973	80	8
1974	30	9
1975	103	8
1976	127	8
1977	65	8
	Total 10,541	

† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50	4	$5,000 to $50,000	7	$5 million to $50 million
2	$50 to $500	5	$50,000 to $500,000	8	$50 million to $500 million
3	$500 to $5,000	6	$500,000 to $5 million	9	$500 million to $5 billion.

NOTE.--The above estimated losses are based on values at time of occurrence.

NORTH ATLANTIC TROPICAL CYCLONES, 1977

Miles B. Lawrence
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The North Atlantic hurricane season was rather inactive in 1977. There were six named tropical cyclones, of which five reached hurricane force. This compares with a long-term average of nine storms per year, including five hurricanes. Table 1 gives a statistical summary of the 1977 storms, and Figure 1 shows their tracks.

Another measure of activity is the number of hurricane days. There were only 9 hurricane days this season. The annual average is 29 hurricane days. The impact of such inactivity on mariners is suggested by Table 2, which is a list of ships encountering tropical cyclones during 1977. There are only 43 ships on this list. In 1976 there were 26 hurricane days, and 151 ships encountered gale-force winds or higher in connection with tropical cyclones.

Hurricane Anita was named on August 29. Fewer than 10% of the hurricane seasons have begun this late. The season terminated when tropical storm Frieda moved inland on October 18. This 51-day interval compares with the average length of time of 110 days between beginning and ending dates. Tables 3 and 4 show the frequency of tropical cyclones during past years and loss of life and damage.

Another aspect of this season concerns the storm tracks. Figure 1 shows that none of the storms originated east of longitude 60°W. This situation has occurred only one other time (1972) during the past 30 yr. It is likely that the absence of activity across the tropical North Atlantic is related to the strength of the Bermuda-Azores high-pressure ridge, which was weaker than normal during September.

Anita reached a central pressure of 926 mb, the fourth lowest ever recorded in the Gulf of Mexico. Babe made landfall along the Louisiana coast and was the only named storm to directly hit the United States in 1977.

HURRICANE ANITA, AUGUST 29-SEPTEMBER 2

Anita was identified as a tropical depression at 1200 on August 29, centered a little over 200 mi south-southeast of New Orleans. Previously, the progress of a tropical wave had been followed across the Atlantic during mid-August. Cloudiness and rain associated with this system spread across the Bahamas, Florida, and western Cuba on the 25th through the 27th and moved into the eastern Gulf of Mexico on the 28th, where Anita's development began.

Anita traveled west-southwestward across the Gulf of Mexico for the next 4 days, steadily intensifying. Tropical-storm strength was reached just before 0600 on the 20th. Twelve hours later, hurricane force was reached. Intensification continued until a minimum pressure of 926 mb was measured just prior to landfall, which occurred early on September 2 along the Mexican coast about 150 mi south of Brownsville, Tex. Maximum surface winds reached 150 kn, and Anita has been ranked as the fourth most intense storm in the Gulf of Mexico, behind the 1935 Labor Day storm in the Florida Keys (892 mb), Camille in 1969 (905 mb), and Beulah in 1967 (923 mb).

More than half of the ships in Table 2 took observations while within Anita's circulation. The OGDEN JORDAN reported hurricane-force winds at 0300 on August 31, when she was less than 40 mi north of the hurricane's center. The TEXACO FLORIDA measured southerly winds of 54 kn at 1500 on September 1, about 100 mi southeast of the center.

Hurricane warnings were issued early on the 1st along the Texas coast from just south of Corpus Christi to Brownsville, and Mexican authorities were advised of the threatening nature of this storm. Landfall occurred along a sparsely settled region of the Mexican coast, and no damage estimates are available. Ten persons were reported dead from inland flooding and landslides in Mexico.

Almost 100,000 people evacuated low-lying areas in advance of the storm, including 7,000 workers from offshore-drilling platforms and 35,000 from Mexico. The remainder were from along the Texas and Louisiana coasts.

HURRICANE BABE, SEPTEMBER 3-8

On September 3 westerly surface winds reported from data buoy EB-44 (26°N, 86°W) confirmed the presence of a surface low-pressure system in the northeastern Gulf of Mexico. This depression was not far from the starting point of Anita (see Fig. 1). The depression had formed as a result of the interaction between a tropical wave and a cold upper level low-pressure system.

Gale-force winds under a large band of convective cloudiness extended from the central Gulf of Mexico to the mouth of the Mississippi River, then eastward to just offshore near the Florida panhandle. The KLEK reported 37-kn winds under this cloud band. At 1600 on the 3d, Babe was named a tropical storm, and gale warnings were posted from Morgan City to Pensacola. Babe's structure was not yet completely tropical; however, upgrading to a tropical storm was done in order not to confuse the public during a warning situation.

On the 4th the transition to a tropical system was complete. The storm was moving northward, and reconnaissance aircraft reported 70-kn surface winds. Babe was upgraded to a hurricane, and warnings were posted along the Louisiana coast from Vermilion Bay eastward to the mouth of the Mississippi.

Postanalysis of the situation shows that the 70-kn wind was a transitory feature, and Babe did not actually reach hurricane strength until 0600 on the 5th. Babe maintained hurricane status for only a few hours until she made landfall in south-central Louisiana on the morning of the 5th.

Babe on the afternoon of the 4th had maximum sustained winds near 50 kn. Several ships at this time were within 100 mi of the storm center and reporting gales. These included the MOBIL GAS, MOBIL FALCON, AND CITIES SERVICE BALTIMORE.

A 40-kn reading from Boothville was the highest sustained wind from a land station, although higher speeds probably occurred closer to the center. Tide readings along the Louisiana coast were up to 5 ft mean sea level (MSL), but some of this was due to Anita's recent passage. An estimate of $10 million in damages has been made. There are no known fatalities in connection with Babe.

HURRICANE CLARA, SEPTEMBER 5-11

Clara's origins can be traced to a convective cloud band, from Babe, which contained gales and moved onshore into the southeastern States. By 1200 on September 5, a surface depression was analyzed just north of Charleston, S.C. (over land). It drifted east-northeastward, slowly becoming organized. By 0000 on the 8th, 200 mi east of Cape Hatteras, Clara reached tropical-storm intensity and became a minimal hurricane 12 hr later with a pressure of 993 mb and 65-kn winds.

Winds of 65 kn were maintained in spite of a rising central pressure until early on September 9. The SEALIFT PACIFIC was a little less than 150 mi west of the storm center at 1200 on the 9th and reported 40-kn winds from the north-northwest and 15-ft seas.

Clara made a tight looping motion over a 36-hr period (see Fig. 1), and then she accelerated northeastward and was absorbed on the 11th by an extratropical low-pressure system. During the looping Clara briefly threatened Bermuda. There were no damages or casualties.

HURRICANE DOROTHY, SEPTEMBER 26-30

A tropical wave passed through the northern Windward and southern Leeward Islands of the Caribbean on September 21 with winds gusting to 60 kn and heavy rain. This weather shifted northward, and a tropical depression formed northeast of the Bahamas on the 26th. Moving toward the northeast at 10 to 15 kn, Dorothy reached tropical-storm strength on the morning of the 27th and attained hurricane status on the 28th.

The MARALUNGA crossed Dorothy's path, and the following plain language report was received at the National Hurricane Center:

MARALUNGA ICVC 2 36.8N, 57.4W 280900 BAROMETER 1009 WIND FORCE 6 SEA 6 RAIN STOP COURSE 310 TO KEEP AWAY FROM DOROTHY 281300 37.4N, 59.2W BAROMETER 1006 WIND FORCE 6/7 NNE SEA 6/7 RAIN COURSE 260 STOP 281600 37.2N, 59.7W BAROMETER 1002 WIND 6/7 NNE SEA 6/7 CHANGING COURSE AFTER WEATHER BULLETIN.

The storm lost its tropical characteristics on the 29th, while just east of Cape Race, Newfoundland, and was absorbed by a frontal low-pressure system over the North Atlantic on the 30th. Maximum sustained winds were estimated 75 kn with a central pressure of 980 mb at 0000 on the 29th.

HURRICANE EVELYN, OCTOBER 13-15

Satellite pictures indicated that a tropical depression had formed 400 mi south of Bermuda on October 13. This depression headed north and passed over Bermuda on the morning of the 14th.

Weather data from Bermuda, as well as ship reports from the STAR ASAHI and CHEVRON MADRID, suggested that Evelyn had reached tropical-storm strength by 0600 on the 14th.

The storm then accelerated north-northeastward and became a hurricane at 0000 on the 15th, based on a reconnaissance report of 994 mb and 72-kn, low-level winds.

As Evelyn raced toward the Canadian Maritime Provinces, she began to encounter a frontal cloud system. The MARINE NAUTICA reported 68-kn winds and 1001 mb just off the southwestern tip of Newfoundland at 1800 on the 15th. Evelyn had been kept at huricane strength up to this location on the track chart.

The center moved over Cape Breton Island, Nova Scotia, on the 15th. No damages or casualties have been attributed to this storm.

TROPICAL STORM FRIEDA, OCTOBER 16-18

Frieda was a minimal, short-lived tropical storm on the northwestern Caribbean. A series of cold fronts penetrated into the northwestern Caribbean during mid-October, and a tropical wave merged with this frontal cloudiness on the 16th.

Late on the 16th a reconnaissance aircraft found the center of a tropical depression just east of Swan Island. The system moved steadily westward, crossing the coast of Belize on the 18th.

On the 17th 60-kn winds were measured at 1,500 ft, some 50 mi south of the center, and Frieda was upgraded to a tropical storm. Early on the 18th an unidentified ship reported gale-force winds, well southeast of Frieda's center.

By landfall, just north of Belize City, maximum winds had decreased to below gale force. Rainfall of 4 to 5 in was measured at Swan Island and Grand Canyon over a period of 1 to 2 days.

Table 1.--Summary of North Atlantic tropical cyclone statistics, 1977

No.	Name	Class	Dates	Maximum sustained winds (kn)	Lowest pressure (mb)	U.S. damage ($ million)	Deaths
1	Anita	H	Aug. 29-Sept. 2	150	926	minor	Mexico, 10
2	Babe	H	Sept. 3-8	65	995	10	
3	Clara	H	Sept. 5-11	65	993		
4	Dorothy	H	Sept. 26-30	75	980		
5	Evelyn	H	Oct. 13-15	70	994		
6	Frieda	T	Oct. 16-18	50	1005		

Table 2.--Ships encountering tropical cyclones in the North Atlantic during 1977

Vessel	Nationality	Date	Position of Ship		Time GMT	Wind		Visibility n. mi.	Present Weather code	Pressure mb.	Temperature °C.		Sea Waves +		Swell Waves		
			Lat. deg.	Long. deg.		Dir. 10°	Speed kt.				Air	Sea	Period sec.	Height ft.	Dir. 10°	Period sec.	Height ft.
ANITA		AUG															
SHIP		29	28.2	88.0	12	10	34			1015.2			04	3	13	6	8
SEALAND PRODUCER	U.S.A.	29	26.2	87.8	23	18	44			1009.8			"Very Rough"				
MARINE DUVAL	U.S.A.	30	27.8	88.8	00	14	37			1012.5							
ASMARA	U.S.A.	30	25.4	90.9	21	25	44			1005.5							
SHIP		31	28.5	89.3	00	07	33			1011.2			04	5	18	7	10
ASMARA	U.S.A.	31	25.1	91.2	00	25	37			1016.5							
OGDEN JORDAN	LIBERIA	31	26.5	93.1	00	03	37			998.3			05	15	05	7	11
PRAIRIE GROVE	U.S.A.	31	27.1	86.4	00	14	35							10			
OGDEN JORDAN	LIBERIA	31	26.9	90.9	03	11	65			1001.3							
NEPTUNE CYPRINE	SINGAPORE	31	26.3	90.2	12	13	40			1007.0			03	10	13	8	13
BALTIMORE TRADER	U.S.A.	31	24.3	91.0	15	23	35			1010.2			03	10	34	8	16
GUADALUPE	U.S.A.	31	28.0	91.0	15	15	43			1011.6			10	18	15	10	18
YTTX	YUGOSLAVIA	31	26.8	89.6	15	14	48			1009.0			05	11			
BALTIMORE TRADER	U.S.A.	31	24.4	90.2	18	18	35			1011.0			04	13	14	8	16
GUADALUPE	U.S.A.	31	27.9	90.8	18	16	35			1012.2			05	8	15	8	16
NEPTUNE CYPRINE	SINGAPORE	31	26.8	90.5	18	13	35			1009.0			08	10	13	9	15
YTTX	YUGOSLAVIA	31	26.4	89.6	18	15	46			1009.5			24	8	05	6	38
		SEP															
TEXACO CONNECTICUT	U.S.A.	1	28.7	93.8	00	08	35			1010.8			05	5	12	9	10
EXXON FLORENCE	U.S.A.	1	28.5	93.3	12	11	35			1010.3							
DAVID P. REYNOLDS	LIBERIA	1	27.7	95.5	12	09	35			1007.8			05	11	09	8	13
TEXACO FLORIDA	U.S.A.	1	24.1	93.4	15	18	54			1000.9			03	7	20	6	7
DAVID P. REYNOLDS	LIBERIA	1	27.2	94.3	18	08	45			1009.0			05	11	10	9	13
DAVID P. REYNOLDS	LIBERIA	2	26.7	93.4	00	11	35			1010.8			05	11	11	6	11
YTTX	YUGOSLAVIA	2	22.7	96.5	06	19	37			1004.5			04	5	33	≥14	7
BABE		SEP															
KLEK	YUGOSLAVIA	3	28.7	89.4	18	05	37			1010.7			05	8			
KLEK	YUGOSLAVIA	4	29.7	88.7	00	08	44			1008.5			05	15			
CORSAIR		4	27.6	90.9	09	14	40										
MOBIL GAS	U.S.A.	4	27.7	90.6	15	17	34			1008.5			01	2	19	9	13
CITIES SERVICE BALTIMORE	U.S.A.	4	27.8	90.9	16	16	37			1010.2					14		17
MOBIL GAS	U.S.A.	4	28.0	91.4	18	14	35			1003.4			02	3	15	8	13
MOBIL FALCON	LIBERIA	4	27.1	90.2	18	17	46			1008.0							
SHIP		5	27.4	90.5	00	18	39			1004.7			07	8	22	9	15
CLARA		SEP															
NENC	U.S.A.	9	33.4	65.3	12	33	40			1013.9			04	15	34	≥14	30
GNGU	U.K.	11	34.9	58.4	18	24	44			1007.2			07	8	24	10	16
VAN HAWK	POLAND	11	37.9	56.1	18	21	43			1008.0							
DOROTHY		SEP															
HAHNENTOR	GERMANY	29	40.0	49.2	12	16	44			1007.6			07	16	16	10	20
MARITIME FORTUNE	PANAMA	29	41.9	47.4	18	16	39			1010.0			06	13	17	6	13
MUENCHEN	GERMANY	29	44.6	56.8	18	03	33			996.7			04	7	03	6	16
EVELYN		OCT															
STAR ASAHI	NORWAY	14	28.1	62.3	00	13	35			1016.0							
CHEVRON MADRID	NETHERLANDS	14	32.5	59.9	06	15	39			1018.7							
MARINE NAUTICA	SWEDEN	15	45.7	59.1	18	09	68			1001.0							
HLYO	KOREA	15	46.9	57.7	18	13	35			1002.5							
FRIEDA		OCT															
SHIP		18	16.2	85.2	06	26	35			1013.5							

+ Direction for sea waves same as wind direction

Table 3
NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

TOTAL NUMBER OF TROPICAL CYCLONES, LOSS OF LIFE AND DAMAGE								
	Total Number Tropical Cyclones*		Total Number Hurricanes		Loss of Life		Damage by Categories**	
Year	All Areas	Reaching U.S. Coast	All Areas	Reaching U.S. Coast	Total All Areas	United States	Total All Areas	United States
1931	9	2	2	0		0		•
1932	11	5	6	2		0		•
1933	21	7	9	5		63		7
1934	11	5	6	3		17		6
1935	6	2	5	2		414		7
	58	21	28	12				
1936	16	7	7	3		9		6
1937	9	4	3	0		0		4
1938	8	4	3	2		600		8
1939	5	3	3	1		3		3
1940	8	3	4	2		51		6
	46	21	20	8				
1941	6	4	4	2		10		7
1942	10	3	4	2	17	8	7	7
1943	10	4	5	1	19	16	7	7
1944	11	4	7	3	1,076	64	8	8
1945	11	5	5	3	29	7	8	8
	48	20	25	11				
1946	6	4	3	1	5	0	7	7
1947	9	7	5	3	72	53	8	8
1948	9	4	6	3	24	3	7	7
1949	13	3	7	2	4	4	8	8
1950	13	4	11	3	27	19	7	7
	50	22	32	12				
1951	10	1	8	0	244	0	7	6
1952	7	2	6	1	16	3	6	6
1953	14	6	6	2	3	2	7	7
1954	11	4	8	3	720-	193	9	9
1955	12	5	9	3	1,518-	218	9	9
	54	18	37	9				
1956	8	2	4	1	76	21	8	7
1957	8	5	3	1	475	395	8	8
1958	10	1	7	0	49	2	7	7
1959	11	7	7	3	57	24	7	7
1960	7	5	4	2	185	65	8	8
	44	20	25	7				
1961	11	3	8	1	345	46	8	8
1962	5	1	3	0	4	4	6	6
1963	9	1	7	1	7,218-	11	9	7
1964	12	6	6	4	266	49	9	9
1965	6	2	4	1	76	75	9	9
	43	13	28	7				
1966	11	2	7	2	1,040	54	8	7
1967	8	2	6	1	68	18	8	8
1968	7	3	4	1	11	9	7	7
1969	13	3	10	2	364	256	9	9
1970	7	4	3	1	74	11	9	8
	46	14	30	7				
1971	12	5	5	3	44	8	8	8
1972	4	3	3	1	128	121	9	9
1973	7	1	4	0	16	5	7	7
1974	7	1	4	1	3,000+-	1	8	8
1975	8	1	6	1	80	21	9	9
	38	11	22	6				
1976	8	2	6	1	77	9	8	8
1977	6	1	5	1	10	0	7	7
Total	441	163	258	81				
Mean	9.4	3.5	5.5	1.7				

****The Environmental Data Service has for some time recognized that, without detailed expert appraisal of damage, all figures published are merely approximations. Since errors in dollar estimates vary in proportion of the total damage, storms are placed in categories varying from 1 to 9 as follows:**

1 Less than $50	4 $5,000 to $50,000	7 $5,000,000 to $50,000,000
2 $50 to $500	5 $50,000 to $500,000	8 $50,000,000 to $500,000,000
3 $500 to $5,000	6 $500,000 to $5,000,000	9 $500,000,000 to $5,000,000,000

***Including hurricanes**
• Not reported in literature, believed minor.
- Additional deaths for which figures are not available.

Table 4
NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

Frequency of Tropical Cyclones (Including Hurricanes) by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1931			1	1	2	3	1	1		9
1932		1			3	3	3	1		11
1933		1	1	3	7	5	3	1		21
1934		1	1	1	2	2	3	1		11
1935					3	1	2			6
1936			3	2	6	4	1			16
1937				1	2	6				9
1938					3	1	3	1		8
1939			1		1	1	2			5
1940		1			3	2	2			8
1941						4	2			6
1942					3	3	3	1		10
1943				1	2	4	3			10
1944				3	2	4	2			11
1945			1	1	4	3	2			11
1946			1	1	1	1	2			6
1947				1	2	3	3			9
1948		1		1	2	3	1	1		9
1949					3	7	2	1		13
1950					4	3	6			13
1951		1			3	4	2			10
1952	(Feb.) 1				2	2	2			7
1953		1			3	4	4	1	1	14
1954			1	1	2	4	1	1	1	11
1955				1	4	5	2			12
1956			1	1	1	4	1			8
1957			2		1	4	1			8
1958			1		4	4	1			10
1959		1	2	2	1	3	2			11
1960			1	2	1	3				7
1961				1		6	2	2		11
1962					2	2	1			5
1963				1	1	5	2			9
1964			1	1	4	4	1	1		12
1965			1		2	2	1			6
1966			1	4	1	4		1		11
1967					1	4	3			8
1968			3		1	2	1			7
1969				1	6	2	3	1		13
1970		1		2	1	3				7
1971				1	3	6	1	1		12
1972			1		2	1				4
1973				1	2	2	2			7
1974					3	4				7
1975			1	1	2	3	1			8
1976				1	5	1	1			8
1977					1	3	2			6
Totals	(Feb) 1	9	25	37	114	154	83	16	2	441

Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1931					2				2
1932				3	1	1	1		6
1933		1	1	3	3	1			9
1934		1	1	1	1	1	1		6
1935				2	1	2			5
1936		1	1	3	2				7
1937					3				3
1938				2	1				3
1939				1		2			3
1940				3	1				4
1941					3	1			4
1942				3			1		4
1943			1	1	2	1			5
1944			2	1	3	1			7
1945		1		1	1	2			5
1946			1		1	1			3
1947				2	1	2			5
1948				1	3	1	1		6
1949				2	4	1			7
1950				4	3	4			11
1951	1			2	3	2			8
1952				2	2	2			6
1953				2	3	1			6
1954		1		2	3	1		1	8
1955				3	5	1			9
1956			1	1	1	1			4
1957		1			2				3
1958				3	3	1			7
1959		1	2		3	1			7
1960			1	1	2				4
1961			1		5	1	1		8
1962				1	1	1			3
1963			1	1	4	1			7
1964				2	3	1			6
1965				2	1	1			4
1966		1	3	1	1		1		7
1967				1	3	2			6
1968		2		1		1			4
1969				5	2	2	1		10
1970	1		1		1				3
1971				1	4				5
1972		1		1	1				3
1973			1	1	1	1			4
1974				2	2				4
1975			1	2	3				6
1976				4	1	1			6
1977				1	3	1			5
	2	11	19	75	99	44	7	1	258

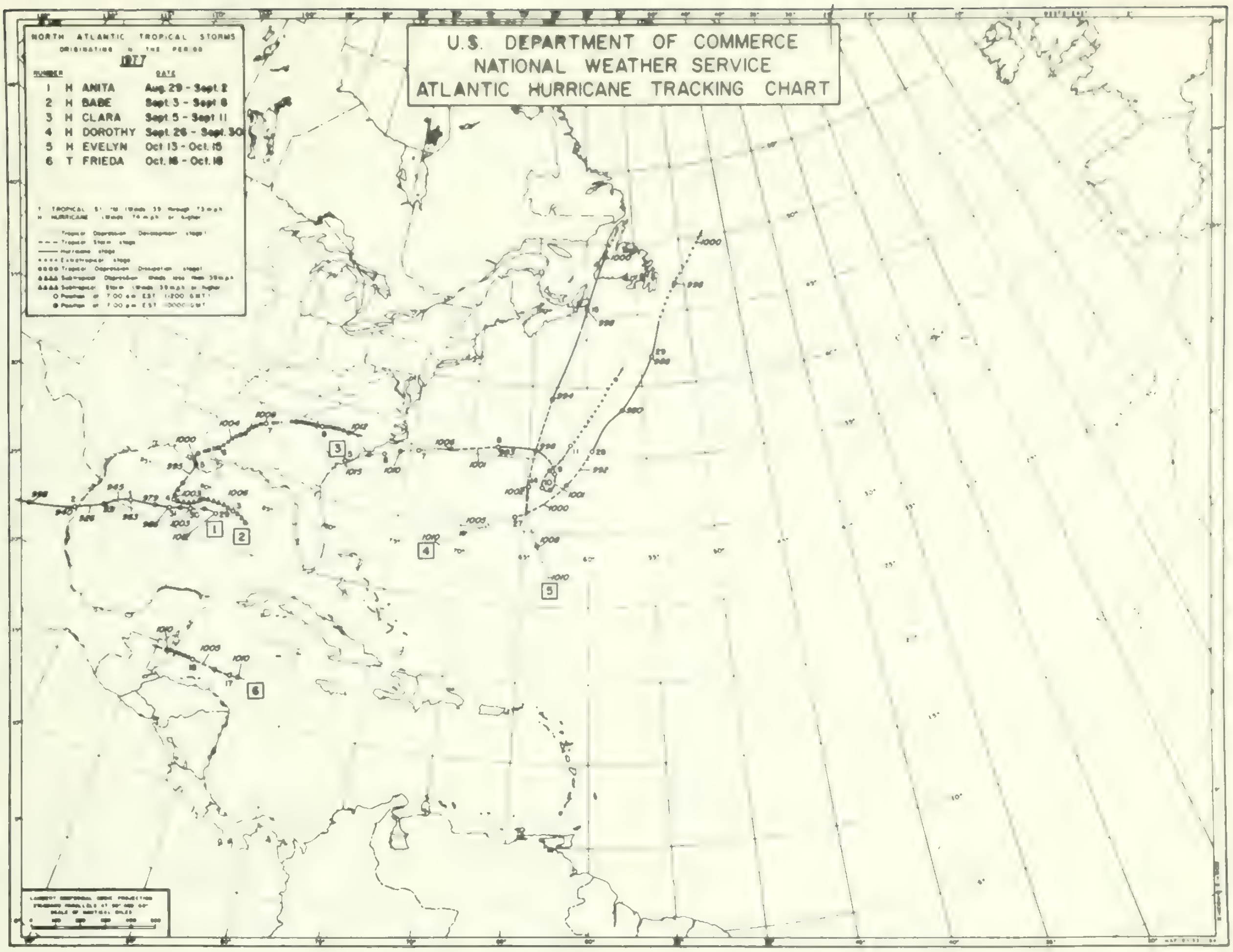
U.S. DEPARTMENT OF COMMERCE
NATIONAL WEATHER SERVICE
ATLANTIC HURRICANE TRACKING CHART
NORTH ATLANTIC TROPICAL STORMS
ORIGINATING IN THE PERIOD
1977
NUMBER
DATE
1 H ANITA Aug. 29 - Sept. 2
2 H BABE Sept. 3 - Sept 8
3 H CLARA Sept. 5 - Sept 11
4 H DOROTHY Sept. 26 - Sept. 30
5 H EVELYN Oct 13 - Oct. 15
6 T FRIEDA Oct. 16 - Oct. 18
T TROPICAL STORM (Winds 39 through 73 mph
H HURRICANE (Winds 74 mph or higher
Tropical Depression (Development stage)
Tropical Storm stage
Hurricane stage
Extratropical stage
Tropical Depression (Dissipation stage)
Subtropical Depression (Winds less than 39 mph
Subtropical Storm (Winds 39 mph or higher
Position at 7:00 am EST (1200 GMT)
Position at 7:00 pm EST (0000 GMT)
1
2
3
4
5
6

Figure 1--Tracks of North Atlantic tropical cyclones, 1977.

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1977

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Tropical cyclone activity over the eastern North Pacific in 1977 began 25 May and ended 23 October. Spanning 152 days, the 1977 season was two days longer than the 1976 season. Table 1 shows the monthly distribution of cyclone activity and Tables 2 and 3 compare this activity with that of recent years. The 1966-77 period was chosen for comparison since it probably includes all tropical cyclone activity in the area due to the excellent satellite coverage during that period. Prior to 1966 some cyclone activity was undetected because of the sparsity of observations. A summary of the important features of the 1977 season is given in Table 4. Cyclone tracks are shown in Fig. 1 and 2.

Although there were nearly as many tropical cyclones in 1977 (17) as there were in 1976 (18), only 47% of the 1977 cyclones reached tropical storm or hurricane intensity, compared with 78% of the 1976 cyclones. The number of tropical cyclones reaching storm or hurricane intensity in 1977 was 47% less than the 1966-76 average. The highest sustained wind speed in hurricanes had winds 100 kt or greater and the highest sustained speed was 125 kt. The duration of hurricane force winds in 1977 totaled 128 h compared with 498 h in 1976. Storm winds in 1977 totaled 343 h and those in 1976 816 h.

The 1977 tropical cyclone season was exceptional in that one of the hurricanes (Doreen) became the second such storm within a year to bring heavy rains to southern California. The previous hurricane (Kathleen, 1976) was the first tropical cyclone to hit southern California since 1939.

Tropical cyclone advisories were issued by the Eastern Pacific Hurricane Center four times daily on a regularly scheduled basis at 0300, 0900, 1500 and 2100 GMT. A total of 193 advisories were issued during the 1977 season compared with 393 during the 1976 season. This amounts to a 51% decrease from 1976, a season with only one more cyclone and two less days.

Although numerous merchant and fishing vessels passed close to the centers of tropical cyclone activity during the 1977 season and undoubtedly experienced heavy weather and seas, no reports of casualties or damage were received from them. Several ships near the origin of Tropical Storm Glenda on 25 September reported 70 kt winds and 25-35 ft seas, but no reports of damage or casualties were received.

All of the tropical cyclones during 1977 dissipated at sea. As a result damage was considerably less than in 1976 when several cyclones moved onshore before dissipating. Although Hurricane Doreen dissipated offshore, the heavy rains it brought into southern California resulted in extensive damage to much of the area. Doreen moved northward along the Baja California coast roughly along the same track as Hurricane Kathleen had taken a year earlier. Aside from this the two cyclones differed in many ways. As Doreen approached southern California it slowed, weakened considerably and remained offshore. Kathleen accelerated to 33 kt as it approached California, maintained its intensity and turned inland over the southern desert areas. Kathleen moved rapidly through the area, Doreen lingered. Kathleen concentrated its heaviest rain over the mountains and dry washes along the eastern slopes of the coast range. Doreen's precipitation was more widespread and concentrated over the low-lying areas, including those west of the coastal mountains. San Diego reported 1.00 inch of rain with Kathleen and 2.13 inches with Doreen. East of the coast range, Imperial reported 2.22 inches with Kathleen and 3.87 inches with Doreen. In the higher mountains, Mt. Wilson, north of Los Angeles, had a storm total of 10.78 inches with Kathleen and 2.61 inches with Doreen. Damage from Kathleen was due mostly to flash flooding and rapid runoff. With Doreen, damage was mostly from standing water, especially in the agricultural area of the Imperial Valley where precipitation was heavier than with Kathleen.

There were no deaths in the United States directly attributable to Doreen. Flood waters destroyed 325 homes and businesses in the southern desert areas and several people were evacuated from low-lying areas. The small desert town of Ocotillo was flooded again as it had been during Hurricane Kathleen. Buses sent to evacuate people from Ocotillo returned empty, however, when the townspeople declined to leave their small community. Interstate Highway 8 at Myers Creek, west of Ocotillo, was washed out again and two of the four lanes of Interstate Highway 15 between Los Angeles and Las Vegas were undercut by flood waters. Damage to agricultural interests in San Diego and Imperial counties was estimated to exceed $25 million.

The National Environmental Satellite Service Field Station, colocated with the Eastern Pacific Hurricane Center, provided excellent satellite coverage during the 1977 tropical cyclone season. Several movie loops were available each day as well as visual and infrared data at 30 min intervals from the stationary SMS 2 (Synchronous Meteorological Satellite) and polar-orbiting NOAA 5 satellites. The detail on the satellite imagery was excellent with full disk resolution at 4 mi and sector resolution at 2 m with 1/2 m resolution available on request. Especially useful were the H-curve "enhanced" pictures from infrared imagery depicting the upper level cold centers of the tropical cyclones. The gridding of satellite pictures was accurate to within a few miles due to the stability of the satellite (SMS 2) over the equator and easily visible landmarks. Cyclone intensity was calculated using the Dvorak technique of satellite cyclone analysis (Dvorak, 1973).

The U.S. Air Force made four reconnaissance flights into eastern Pacific tropical cyclone activity during the 1977 season and NOAA aircraft made on flight. The first flight, with two penetrations, was made into Tropical Storm Ava on 28 May when the storm was 310 n mi south of the tip of Baja California. A second flight was made into Ava, with one penetration, on 29 May with the storm now 275 n mi south of Baja. Two and a half months elapsed before the next reconnaissance flight was made, this time into Hurricane Doreen. The flight was made on 14 August, with two penetrations, when the hurricane was about 150 n mi south of the tip of Baja California. The fourth flight, with one penetration, was made into Hurricane Doreen on the following day, 15 August, when the cyclone was about 15 n mi off the west coast of extreme southern Baja California. The fifth and final flight of the 1977 season was made into Heather when the hurricane was off the tip of Baja California on 5 October.

TROPICAL STORM AVA, 25-30 MAY

The first tropical cyclone of the 1977 season began as a tropical disturbance at 0600 GMT 24 May 500 n mi south-southwest of Acapulco, Mexico. Centered near 9.5°N, 103.5°W, the disturbance was embedded in a broad band of convective activity extending westward from Panama and Costa Rico. Moving northwest at 8 kt the disturbance began to slowly intensify. By 1500 GMT 25 May satellite imagery showed circulation about the center and the disturbance was upgraded to a tropical depression near 11.8°N, 107.0°W or 500 n mi southwest of Acapulco. Turning westward, the depression continued to intensify. By 1200 GMT 26 May wind had increased to 40 kt near the center and the depression was upgraded to Tropical Storm Ava near 11.5°N, 109.6°W. At 1800 GMT the tanker Chevron Amsterdam passed through the center of Ava reporting light variable winds, an air temperature of 77°F and a sea surface temperature of 82°F.

The storm then turned sharply to the north under the influence of an upper level trough moving across Baja California and northern Mexico. Continuing to intensify over the relatively warm water, Ava reached its maximum intensity of 55 kt at 1200 GMT 28 May near 17.8°N, 110.7°W or 60 n mi south-southeast of Socorro Island. At 2337 GMT 28 May Air Force reconnaissance located the center of Ava with a poorly defined eye at 17.8°N, 109.9°W. No longer under the influence of the upper level trough moving across northern Mexico, Ava slowed to a near stationary position at 18.0°N, 110.0°W. A second reconnaissance flight through the storm at 1735 GMT 29 May located the center near 18.2°N, 110.0°W. The eye, better defined, was open to the south.. Surface winds 40 n mi from the center were estimated near 30 kt. Winds on Socorro Island, 60 n mi to the northwest, were northerly at 35 kt. The cargo ship Thompson Lykes, 80 n mi east-southeast of Ava, reported southwesterly 15 kt winds. Ava was downgraded to a tropical depression at 1800 GMT 29 May with the center still near 18.0°N, 110.0°W. Flow aloft at 200 mb had weakened and become more westerly. The deep-layer circulation between 1000-100 mb had also weakened and shifted from southwest to northwest. Lacking upper level support and with sea surface temperatures cooling to 75°F, the depression began to slowly dissipate. The cyclone was downgraded to a tropical disturbance after 1200 GMT 30 May with the center near 18.0°N, 110.2°W.

TROPICAL CYCLONE TWO, 30 MAY-1 JUNE

The second tropical cyclone of the 1977 season began as a small disturbance near the Nicaraguan coast at 0600 GMT 30 May. Moving west at 4 kt, the disturbance was upgraded to a tropical depression at 1800 GMT 30 May near 12.1°N, 87.8°W. With 25-30 kt winds near the center, the depression then turned northwest toward the El Salvador coast. By 0600 GMT 31 May the cyclone had moved to 13.2°N, 89.0°W, where it remained near stationary, 20 n mi from the coast before dissipating at 0000 GMT 1 June.

TROPICAL CYCLONE THREE, 9-11 JUNE

A tropical disturbance 80 n mi off the Guatemalan coast at 0000 GMT 8 June became the third tropical cyclone of the 1977 season. Drifting slowly west-northwest, the disturbance was upgraded to a tropical depression at 1800 GMT 9 June near 13.2°N, 92.5°W. The ships Samuel Chase, Texaco Georgia, Maersk Commander and Tasmanic were helpful in locating the center of the depression. Moving northwest at 9 kt, the depression began to drift across the Gulf of Tehuantepec on the extreme southern Mexican Coast. By 0000 GMT 10 June the depression had moved to 14.0°N, 93.0°W. It then turned west-northwest and moving at 6 kt began to slowly dissipate. At 1800 GMT the Santa Maria, 70 n mi west-northwest of the depression reported that it was under the influence of the depression with east-northeasterly 10 kt winds and sea surface temperature of 88°F. In spite of the warm water, satellite imagery at 0000 GMT 11 June showed the cyclone to be dissipating rapidly near 14.8°N, 95.2°W or about 80 n mi south of Salina Cruz on the southern Mexican coast.

TROPICAL STORM BERNICE, 25-28 JUNE

Bernice began as a tropical disturbance 500 n mi southwest of Acapulco, Mexico, at 0000 GMT 25 June. Centered within an area of convective activity 600 n mi in diameter, the disturbance moved west-northwest at 11 kt over 81°F water. By 0500 GMT 25 June satellite imagery indicated cyclonic circulation about the center and the disturbance was upgraded to a tropical depression near 13.0°N, 109.0°W or 580 n mi west-southwest of Acapulco. Continuing on a west-northwesterly track, the depression began to slowly intensify. By 1200 GMT 26 June winds had increased to 35 kt and the depression was upgraded to Tropical Storm Bernice near 15.0°N, 114.0°W or 560 n mi southwest of the tip of Baja California. By 1800 GMT the storm had moved to 15.6°N, 115.9°W and winds near the center had increased to 40 kt. Bernice then turned northwest and, moving over 78°F water, began to weaken. By 0600 GMT 27 June winds had decreased to 35 kt. Low clouds to the north began to feed into the low-level circulation further weakening the cycone. By 1800 GMT 27 June the center of the storm was near 19.1°N, 120.1°W or 620 n mi west-southwest of the tip of Baja California. It then turned west-northwest and by 0000 GMT 28 June, with winds near 30 kt, was downgraded to a tropical depression near 19.6°N, 121.4°W. The final advisory on the cyclone was issued at 0600 GMT 28 June with the center dissipating rapidly near 20.1°N, 123.4°W. Although satellite imagery continued to show cyclonic circulation in the low-level cloud field for an additional 24 h, all convective activity associated with the cyclone had ceased and winds near the surface had decreased to 20 kt or less.

HURRICANE CLAUDIA, 3-7 JULY

The fifth tropical cyclone of the season began 0000 GMT 1 July as a disturbance centered near 12.1°N, 100.4°W or 280 n mi south of Acapulco. Embedded within an area of convective activity 400 n mi in diameter, the disturbance moved west at 12-14 kt over 84°F water. By 0000 GMT 3 July satellite pictures showed cyclonic circulation about the center and the disturbance was upgraded to a tropical depression near 14.5°N, 110.9°W or 250 n mi south of Socorro Island and 670 n mi west of Acapulco. Winds near the center were 30 kt and increasing. Slowing to 8 kt, the depression continued to move west of 81°F water. By 0600 GMT 3 July winds had increased to 45 kt and the depression was upgraded to Tropical Storm Claudia with the center near 14.8°N, 111.7,W. Visual satellite pictures at 1800 GMT 3 July showed Claudia with a small eye about 15 n mi in diameter. By 0000 GMT 4 July Claudia had moved to 15.1°N, 114.0°W and winds near the center had increased to 55 kt. The cargo ship Pacific Era, 200 n mi to the north, helped to locate the center of the storm. By 0345 GMT Claudia's winds had increased to 70 kt and the storm was upgraded to a hurricane near 15.2°N, 114.4°W. Winds increased to 80 kt by 0600 GMT with the center now 300 n mi southwest of Socorro Island. Infrared satellite imagery at 0600 and 1200 GMT seemed to show trochoidal motion associated with the center of the cyclone. At 0545 GMT 4 July Claudia's eye appeared to be centered near 15.4°N, 114.7°W. Thirty minutes later, at 0615 GMT, the eye apeared near 15.1°N, 114.6°W. Again at 1145 GMT infrared imagery showed the eye near 14.9°N, 115.2°W, shifting to 15.3°N, 115.3°W at 1215 GMT. Claudia continued to move west at 8 kt and began to slowly weaken over 78°F water. Winds near the center decreased to 60 kt by 0000 GMT 5 July and the hurricane was downgraded to a tropical storm near 15.5°N, 117.0°W or 400 n mi southwest of Socorro Island. The eye was no longer visible from satellite pictures. Continuing to move west, Claudia increased its speed to 13 kt. The tanker Chevron California, the cargo ship Inger and the NOAA research vessel Oceanographer were helpful in locating the center of Claudia as it continued westward. By 1800 GMT 6 July the storm had moved to 16.3°N, 126.0°W and winds near the center had decreased to 35 kt. With sea surface temperature near 76°F, the storm continued to weaken. Claudia was downgraded to a tropical depression with 30 kt winds near the center at 0000 GMT 7 July near 16.0°N, 127.1°W. The final advisory on the cyclone was issued at 1200 GMT 7 July with the center rapidly dissipating near 16.2°N, 130.0°W. The ship Silvermain, 25 n mi northeast of the dissipating cyclone, reported only 10 kt of wind. Remnants of Claudia continued to drift west for an additional 36 h before completely dissipating near 15.0°N, 140.0°W.

TROPICAL CYCLONE SIX, 8-9 JULY

While Claudia was moving westward with slowly diminishing winds, another disturbance was beginning to develop 720 n mi to the east-southeast. By 0000 GMT 6 July the new disturbance was centered near 11.2°N, 111.0°W or 450 n mi south of Socorro Island. Moving west-northwest at 10 kt over 83°F water, the disturbance began to slowly intensify. By 0000 GMT 8 July satellite imagery showed cyclonic circulation near the center and the disturbance was upgraded to a tropical depression near 13.6°N, 117.0°W or 470 n mi southwest of Socorro Island. As the depression moved west-northwest at 13 kt, the ship Dagny Skou helped to locate the center near 15.9°N, 121.9°W at 0000 GMT 9 July. Continuing west-northwest over 77°F water, the depression began to weaken. By 0600 GMT 9 July low clouds from the north were beginning to enter into the cyclonic flow. The final advisory on the depression was issued at 0600 GMT 9 July with the center dissipating rapidly near 16.3°N, 123.0°W.

TROPICAL CYCLONE SEVEN, 9-10 JULY

Tropical cyclone seven began as a tropical disturbance 280 n mi south-southwest of Acapulco at 0000 GMT 8 July. The disturbance moved west at 9 kt over 85°F water and began to intensify. By 0000 GMT 9 July enhanced infrared and visible satellite imagery showed cyclonic circulation about the center and the disturbance was upgraded to a tropical depression near 13.4°N, 105.2°W or 380 n mi southwest of Acapulco. The ships Sugar Islander, Exxon San Francisco and Inger were helpful in locating the center of the cyclone. Although sea surface temperatures reported by the ships ranged from 86-90°F, the depression failed to intensify as it drifted west at 4 kt. Flow aloft, from the southeast, was weak and divergent. The final advisory on the cyclone was issued to 0000 GMT 10 July with the center at 13.0°N, 106.6°W.

TROPICAL CYCLONE EIGHT, 25 JULY

The eighth cyclone of the season began as a disturbance near 11.7°N, 128.5°W at 1800 GMT 23 July. Moving west at 12-14 kt, the disturbance began to intensify over 80°F water. By 0000 GMT 25 July satellite movie loops showed cyclonic circulation about the center and the disturbance was upgraded to a tropical depression near 11.8°N, 135.0°W. The depression continued to move west, but slowed to 7 kt and began to weaken. By 1200 GMT the center had dissipated into an area of disorganized convective activity near 11.8°N, 136.5°W.

TROPICAL CYCLONE NINE, 1-2 AUGUST

Tropical cyclone nine was another short-lived depression lasting only 20 h. The cyclone began as a disturbance near 10.5°N, 118.0°W at 1200 GMT 30 July. Moving northwest at 12 kt, the disturbance began to slowly intensify over 80°F water. By 1800 GMT 31 July the center was near 14.5°N, 122.5°W. It then turned to the west and by 1600 GMT 1 August was upgraded to a tropical depression near 15.4°N, 127.1°W. By 0600 GMT 2 August the center was near 15.8°N, 130.1°W. It then turned southwest and, moving at 15 kt over 78°F water, began to weaken. The final advisory on the depression was issued at 1200 GMT 2 August with the center near 14.8°N, 131.2°W.

HURRICANE DOREEN, 13-18 AUGUST

Doreen began as a tropical disturbance 100 n mi west of Acapulco, Mexico, at 0000 GMT 11 August. Ship reports along the Mexican coast helped to locate the disturbance. Reports from the Argo Leader, Malmros Monsoon, Rollnes, Meadowbank, Prag and Lynton Grange were especialy helpful. Drifting west at 6 kt, the disturbance was upgraded to a tropical depression at 0000 GMT 13 August with the center near 17.6°N, 106.5°W or 400 n mi west of Acapulco. The cyclone then turned northwest and began to slowly intensify over 82°F water. By 1800 GMT winds had increased to 45 kt and the depression was upgraded to Tropical Storm Doreen near 18.8°N, 107.7°W or 460 n mi west-northwest to Acapulco. At 1742 GMT 14 August Air Force reconnaissance located the center of Doreen near 20.3°N, 109.3°W or 160 n mi south of the tip of Baja California. A second penetration of the storm was made at 1958 GMT. Based on extrapolated sea level pressure (979 mb), the storm was upgraded to Hurricane Doreen with 65 kt winds near the center. The eye, open to the southwest, was 15 n mi in diameter. Reports from the ships Star Malmanger, Ogden Jordan, Albany, Maritime Reliance and Temple Inn helped to confirm satellite and reconnaissance positions. Turning to the north-northwest and increasing its speed to 9 kt, Doreen passed 30 n mi west of the tip of Baja California at 1300 GMT 15 August. By 1800 GMT the hurricane had moved to 23.6°N, 110.8°W or about 15 n mi off the west coast of extreme southern Baja. The cargo ship Export Buyer, 120 n mi southeast of Doreen at 1800 GMT, reported southerly 45 kt winds, moderate rain, 16 ft. wind waves and 24 ft swells resulting in combined seas of 29 ft. Another ship, the Temple Inn, 260 n mi southeast of Doreen, reported southeasterly 40 kt winds with 22 ft wind waves. The Air force made another reconnaissance flight through Doreen at 1820 GMT 15 August reporting the eye with a closed wall 10 n mi in diameter no longer open to the southwest. Turning more to the northwest, and increasing its speed to 18 kt, Doreen drifted onshore briefly near San Carlos on the west coast of southern Baja. By 0000 GMT 16 August the center was near 25.0°N, 112.0°W. The ship Arthur Maersk, 80 n mi to the northwest, helped to locate the center. As Doreen moved northwest over cooler 72°F water the hurricane began to weaken. By 0600 GMT 16 August winds had decreased to 50 kt and the hurricane was downgraded to a tropical storm near 26.4°N, 113.2°W. Drifting onshore again, Doreen moved to the tip of the Point Eugenia peninsula by 1200 GMT 16 August. By 1300 GMT the storm was offshore again moving northwest over the Bay of Sebastian Vizcaino. Winds near the center had decreased to 35 kt over water that was now near 68°F. The ship Danwood Ice, 30 n mi northeast of Doreen, reported east-southeasterly 32 kt winds. Winds near the center of Doreen continued to decrease as the storm drifted toward the southern California coast. By 0600 GMT 17 August Doreen winds had decreased to 30 kt and Doreen was downgraded to a tropical depression near 30.7°N, 117.0°W or 130 n mi south of San Diego. By 1800 GMT the cyclone was 70 n mi southwest of San Diego and winds had decreased to 25 kt. With satellite imagery showing weak low-level cyclonic circulation, the final advisory on the depression was issued at 0000 GMT 18 August with the center near 33.0°N, 118.6°W or 25 n mi north-northwest of San Clemente Island off the southern California coast. Remnants of Doreen then drifted slowly northeast across southern California.

While Doreen was off the central Mexican coast and still south of Baja California, another disturbance, developing near 15.0°N, 119.0°W, began to drift eastward into the cyclonic flow associated with Doreen. Ships within 300 n mi of this new disturbance reported moderate to heavy rain. As Doreen moved northward along the Baja California coast, this moisture was carried northward around Doreen and into southern California. This moist tropical air began to enhance shower and thundershower activity over the southern California desert areas on 15 August. Flash flood watches and warnings already in effect for heavy thundershowers over the Colorado River Valley and eastern desert areas were extended along with heavy rain warnings for most of southern California by 16 August.

Rain moving northward with Doreen reached San Diego early on 16 August, spreading northward to the Los Angeles basin and Mojave Desert by afternoon, and the Owens Valley and southern San Joaquin Valley by evening. On the coast, rain reached as far north as Santa Barbara by early the following morning. Rain continued over southern California through late evening 17 August and a few showers lingered in the Los Angeles area until late morning 18 August. An average of 2-4 inches of rain fell over the low-lying areas of southern California during the 3-day period and as much as 7 1/2 inches in the higher mountains. Also, 2.47 inches was reported at the Los Angeles airport, 3.78 inches at Calexico, and 7.45 inches at Mt. San Jacinto, west of Palm Springs. An unusually heavy amount, 6.00 inches, was reported at Mitchell Caverns, 60 mi west of Needles, on 17 August.

TROPICAL CYCLONE ELEVEN, 3-4 SEPTEMBER

The Atlantic Hurricane Anita, after crossing central Mexico, emerged over the Pacific as a tropical depression near 21.5°N, 105.5°W at 1200 GMT 3 September. Moving rapidly westweard at 19 kt, the cyclone passed over Maria Madre Island and was near 21.9°N, 107.5°W by 1800 GMT. The ships Soyo Maru and Shunyo Maru were helpful in locating the center of the depression. Turning west-southwest under the southeastern quadrant of an upper level high centered over central Baja, the cyclone moved to 21.0°N, 109.0°W by 0000 GMT 4 September. The depression then turned west over 80°F water and began to weaken. Convective activity associated with the cyclone had decreased to a diameter of 150 n mi compared with 300 when it first appeared over the Pacific. The depression reached 21.1°N, 111.0°W by 1200 GMT 4 September. It then turned north, dissipating in a field of low clouds off the tip of Baja California.

TROPICAL STORM EMILY, 13-14 SEPTEMBER

Emily, the twelfth tropical cyclone of the 1977 season, began as a disturbance near 11.2°N, 113.6°W at 0000 GMT 12 September. Moving west-northwest over 83°F water, the disturbance began to intensify. By 0000 GMT 13 September it was upgraded to a tropical depression near 14.0°N, 118.8°W. At 0500 GMT the tanker Hercules, 200 n mi east of the cyclone, reported southeasterly 35 kt winds and a sea surface temperature of 87°F. At 0600 GMT the depression was upgraded to Tropical Storm Emily near 14.9°N, 120.0°W. Moving across a pocket of cool, 77°F water, the storm began to weaken under an impressive "bursting pattern" in which cyclonic energy was converted to upward vertical motion and a spectacular outflow of high level clouds. Turning north-northwest over 79°F water, Emily began to weaken rapidly after losing must of its energy in the bursting process. By 0600 GMT 14 September the center had moved to 19.5°N, 123.0°W. The Fujisan Maru, 90 n mi to the west-northwest, reported north-northeast 30 kt winds. Turning north, Emily dissipated rapidly over 77°F water.

TROPICAL CYCLONE THIRTEEN, 19-23 SEPTEMBER

The thirteenth tropical cyclone of the 1977 season began as a disturbance near 11.0°N, 99.0°W or 340 n mi south of Acapulco at 0000 GMT 17 September. Moving northwest over 85°F water, the disturbance began to slowly intensify. By 1800 GMT the center was near 15.1°N, 105.1°W or 330 n mi west-southwest of Acapulco. It then turned west-northwest and, moving at 15 kt, continued to intensify. By 1200 GMT 19 September infrared satellite imagery began to show cyclonic circulation about the center and the disturbance was upgraded to a tropical depression near 17.0°N, 109.4°W. The center was now about 565 n mi west of Acapulco 140 n mi southeast of Socorro Island. By 1800 GMT the depression had moved to 17.4°N, 110.9°W. Socorro Island, 80 n mi to the north, reported northeast 30 kt winds. Satellite visible and infrared imagery began to show a bursting pattern taking place which continued over the next 24 h, reaching a maximum at 0600 GMT 20 September. The center was now near 18.0°N, 113.9°W or 180 n mi west of Socorro Island. Winds on the island had shifted to southeast and decreased to 20 kt. Following upper level winds around a low-pressure center off the tip of Baja California, the depression was carried to the northwest, then north and finally northeast toward the southern Baja California coast. The ships Borgestad and Neder Eems were helpful in locating the center of the depression as it neared the Baja coast. By 1800 GMT 22 September the depression was centered near 24.8°N, 115.0°W or 15 n mi west of Puerto Magdalena on the southern Baja coast. The Toyota Maru, 100 n mi to the north, reported continous moderate rain and northerly 20 kt winds. The final position of the cyclone was near 25.0°N, 114.5°W at 0000 GMT 23 September. Remnants of the depression drifted east, dissipating 80 n mi west of the Baja California coast.

HURRICANE FLORENCE, 20-24 SEPTEMBER

While Depression 13 was turning northwest 180 n mi west of Socorro Island, a new disturbance was beginning to develop 600 n mi to the southwest near 12.8°N, 123.0°W. Turning northwest and moving at 8 kt over 82°F water, the new disturbance intensified rapidly. Within 12 h the disturbance was upgraded to a tropical depression near 13.9°N, 124.2°W at 1800 GMT 20 September. The cyclone then turned west-northwest and moving over 84°F water, continued to intensify. By 1800 GMT 21 September, winds near the center had increased to 55 kt, and the cyclone was upgraded to Tropical Storm Florence near 15.1°N, 125.9°W. Six hours later the winds had increased to 65 kt and the storm was upgraded to a hurricane near 15.8°N, 127.8°W. Florence then turned to the north, slowed to 6 kt, and continued to intensify reaching its maximum intensity at 90 kt at 1800 GMT 22 September near 17.9°N, 127.3°W. The hurricane developed a well-defined eye. Turning to the north-northeast and accelerating to 18 kt over considerably colder 74°F water, the hurricane began to weaken rapidly. By 1200 GMT 23 September winds had decreased to 60 kt and Florence was downgraded to a tropical storm near 23.2°N, 124.8°W. Florence was now moving over 71°F water at 22 kt and dissipating very rapidly. By 0000 GMT 24 September winds had decreased to 30 kt and the cyclone was downgraded to a tropical depression near 26.2°N, 122.8°W. The final advisory on the cyclone was issued at 0600 GMT 24 September with the center dissipating near 27.4°N, 122.3°W or about 390 n mi west of the central Baja California coast.

TROPICAL STORM GLENDA, 23-27 SEPTEMBER

As Florence was accelerating to the north-northeast and rapidly dissipating, a new disturbance was beginning to take form 550 n mi southwest of Acapulco near 9.5°N, 105.5°W. Moving northwest at 8 kt over 86°F water, the disturbance began to intensify. The first real indication of its true intensity came at 2100 GMT 23 September when Scripps Institute of Oceanography reported to the Eastern Pacific Hurricane Center that several ships near 10°N, 106°W were experiencing 70 kt winds and 25-35 ft seas. Based on the ship reports and satellite imagery, which was beginning to show cyclonic circulation near the center, the disturbance was upgraded directly to Tropical Storm Glenda at 2100 GMT 23 September with the center near 10.7°N, 106.5°W. Turning to the north-northwest and increasing its speed to 12 kt, Glenda moved to 15.5°N, 109.2°W by 0000 GMT 25 September. The tanker Grand Opal. 160 N mi to the northeast, was reporting east-southeast 15 kt winds and satellite pictures were beginning to show the beginnings of a bursting pattern. The storm was downgraded to a tropical depression at 0000 GMT 25 September. Increasing its forward speed to 20 kt, the depression moved to 19.0°N, 110.9°W or 10 n mi north of Socorro Island by 1200 GMT. Winds on the island were west-northwest 10 kt. Moving under the west side of an upper low centered over northern Mexico, the depression moved to 20.0°N, 112.1°W by 1800 GMT. The upper outflow of clouds resulting from the bursting process appeared to be at a maximum and extended to a diameter of 300 n mi. Continuing north-northwest, the cyclone moved to 23.2°N, 115.8°W by 1200 GMT 26 September. It then turned north and began to dissipate rapidly over 72°F water. The final advisory on the cyclone was issued at 0600 GMT 27 September with the center at 27.8°N, 115.2°W or near the tip of the Point Eugenia peninsula midway up the west coast of Baja California.

HURRICANE HEATHER, 4-7 OCTOBER

The sixteenth cyclone of the 1977 season began as a tropical disturbance near 15.1°N, 106.0°W at 1800 GMT 3 October. Moving west at 12 kt over 84°F water, the disturbance began to intensify and was upgraded to a tropical depression near 15.3°N, 107.2°W at 0000 GMT 4 October. The ships Levin Fisher and Charleroi were helpful in determining the center of the cyclone. Turning northwest, and with winds increasing to 35 kt, the depression was upgraded to Tropical Storm Heather 6 h later near 15.8°N, 108.2°W. As Heather moved northwest and continued to intensify, the ships Union Concord, Maritime Leader and Pacific helped to locate the center of the cyclone. At 0000 GMT 5 October, the Nelson Maru, 120 n mi north-northeast of the cyclone, reported east-southeasterly 34 kt winds. By 0600 GMT winds near the center of Heather had increased to 65 kt and the storm was upgraded to a hurricane near 18.8°N, 112.1°W or 60 n mi west of Socorro Island. Winds on the island at 0600 GMT were from the southwest at 50 kt. By 1800 GMT Heather had moved to 20.5°N, 114.0°W and winds near the center reached their maximum of 75 kt. Winds on Socorro Island now 200 n mi to the southeast, had shifted to the southeast at 25 kt. The Miyagi Maru, 60 n mi north of the cyclone, was reporting easterly 50 kt winds and the Mormacstar, 190 n mi to the northeast, was reporting southeast 30 kt winds. At 2100 GMT 5 October, NOAA reconnaissance aircraft estimated sea level pressure near the storm at 978 mb indicating a surface wind of about 65 kt. Turning to the north-northwest over 77°F water, Heather began to weaken. By 1800 GMT 6 October winds had decreased to 45 kt and Heather was downgraded to a tropical storm near 24.8°N, 116.8°W or 250 n mi west of Puerto Magdalena on the west coast of southern Baja California. The storm then turned north over 72°F water and began to weaken rapidly. By 0000 GMT 7 October the center was at 25.9°N, 117.0°W or about 150 n mi southwest of the tip of Point Eugenia. As Heather moved toward the Baja California coast the ships Euroasia Concorde, Ryoko Maru and Guranka were especially helpful in locating the center of the cyclone. Satellite imagery began to show a separation of about 120 n mi between the upper and lower circulation associated with the cyclone, although both continued to drift north toward Point Eugenia at about the same speed (10 kt). The final advisory on the cyclone was issued at 1200 GMT 7 October as the storm was downgraded to a rapidly disspating depression near 27.9°N, 116.4°W or 80 n mi west of Point Eugenia on the Baja California coast.

TROPICAL CYCLONE SEVENTEEN, 22-23 OCTOBER

The final tropical cyclone of the 1977 season was short-lived, lasting about 24 h. Beginning as a disturbance near 13.5°N, 113.0°W or 330 n mi south-southwest of Socorro Island, the center moved west 10 kt as an area of intense thunderstorm activity about 200 n mi in diameter. By 0500 GMT 22 October, cyclonic circulation was evident about the center and the disturbance was upgraded to a tropical depression near 14.0°N, 115.0°W or 370 n mi southwest of Socorro Island. Moving slowly to the northwest at 3 kt, the center was near 14.7°N, 116.0°W by 0000 GMT 23 October. With water temperatures near 79°F the cyclone showed little further development. By 0600 GMT

23 October the final advisory was issued with the center dissipating near 14.0°N, 116.2°W. Remnants of the depression drifted to 12.1°N, 116.1°W by 0000 GMT 24 October.

Table 1 --Monthly distribution of eastern Pacific tropical cyclones, 1977 *

	May	June	July	August	September	October	November	Total
Tropical depressions	1	1	3	1	2	1	0	9
Tropical storms	1	1	0	0	2	0	0	4
Hurricanes	0	0	1	1	1	1	0	4
Total	2	2	4	2	5	2	0	17

*Cyclones are ascribed to the month in which they began.

Table 2 --Frequency of eastern Pacific tropical storms and hurricanes combined by months and years *

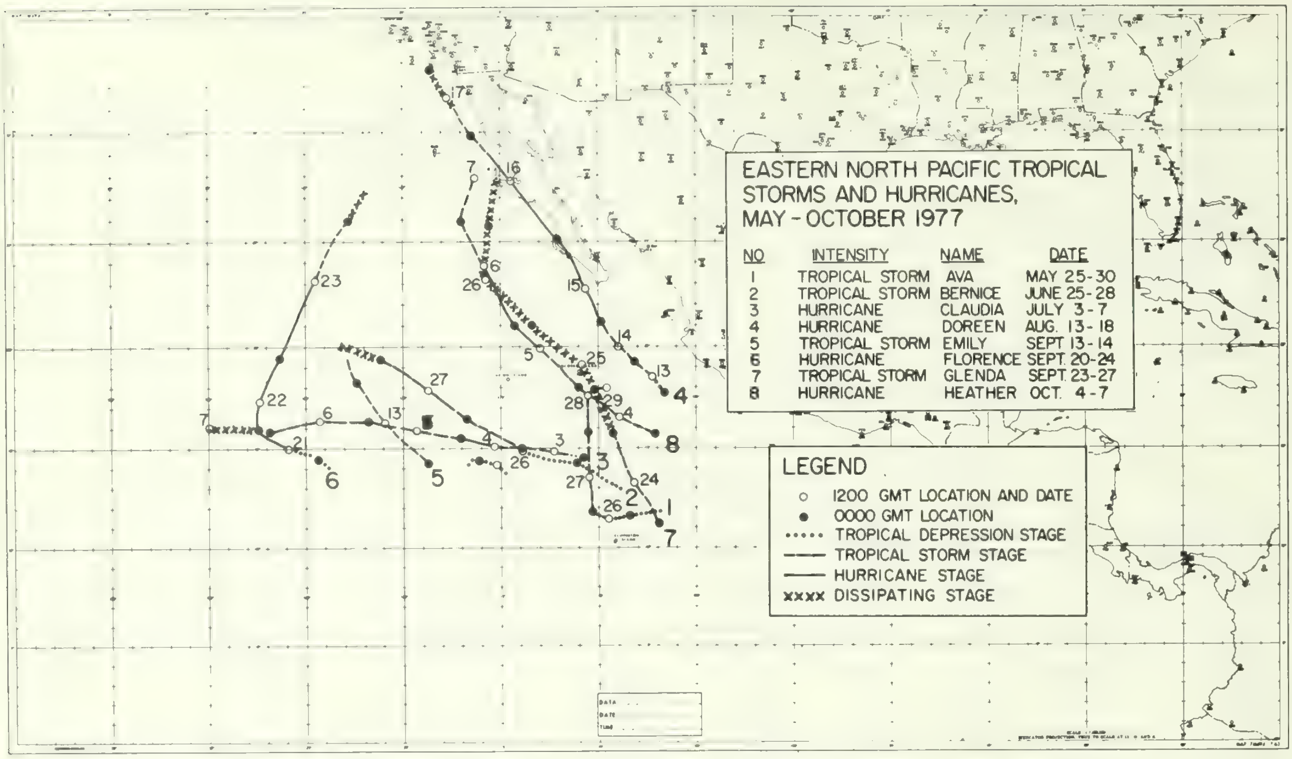
Year	May	June	July	August	September	October	November	Total
1966	0	1	0	4	6	2	0	13
1967	0	3	4	4	3	3	0	17
1968	0	1	4	8	3	3	0	19
1969	0	0	3	2	4	1	0	10
1970	1	3	6	4	1	2	1	18
1971	1	1	7	4	2	2	1	18
1972	1	0	1	6	2	1	1	12
1973	0	3	4	1	3	1	0	12
1974	1	3	3	6	2	2	0	17
1975	0	2	4	5	3	1	1	16
1976	0	2	4	4	3	1	0	14
1977	1	1	1	1	3	1	0	8
Total	5	20	41	49	35	20	4	174
Average	0.4	1.7	3.4	4.1	2.9	1.7	0.3	14.5

*Cyclones are ascribed to the month in which they began.

Table 3 --Number of eastern Pacific tropical storms reaching hurricane intensity by months and year *

Year	May	June	July	August	September	October	November	Total
1966	0	1	0	4	2	0	0	7
1967	0	1	0	2	1	2	0	6
1968	0	0	0	3	2	1	0	6
1969	0	0	1	1	1	1	0	4
1970	1	0	1	1	0	1	0	4
1971	1	1	5	2	2	1	0	12
1972	1	0	0	6	1	0	0	8
1973	0	1	3	0	2	1	0	7
1974	0	2	2	4	2	1	0	11
1975	0	1	2	3	1	1	0	8
1976	0	2	1	2	3	0	0	8
1977	0	0	1	1	1	1	0	4
Total	3	9	16	29	18	10	0	85
Average	0.3	0.8	1.3	2.4	1.5	0.8	0	7.1

*Cyclones are ascribed to the month in which they began.


EASTERN NORTH PACIFIC TROPICAL STORMS AND HURRICANES, MAY - OCTOBER 1977
NO INTENSITY NAME DATE
1 TROPICAL STORM AVA MAY 25-30
2 TROPICAL STORM BERNICE JUNE 25-28
3 HURRICANE CLAUDIA JULY 3-7
4 HURRICANE DOREEN AUG. 13-18
5 TROPICAL STORM EMILY SEPT 13-14
6 HURRICANE FLORENCE SEPT. 20-24
7 TROPICAL STORM GLENDA SEPT. 23-27
8 HURRICANE HEATHER OCT. 4-7
LEGEND
○ 1200 GMT LOCATION AND DATE
● 0000 GMT LOCATION
•••• TROPICAL DEPRESSION STAGE
—— TROPICAL STORM STAGE
—— HURRICANE STAGE
xxxx DISSIPATING STAGE
1
2
3
4
5
6
7
8
23
22
21
7
6
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16
15
14

Tracks of eastern North Pacific tropical storms and hurricanes, 1977.

TABLE 4. Eastern North Pacific tropical cyclones, 1977 (all date/times GMT, latitudes north, longitudes west).

Cyclone	Lifespan	Depression	Storm	Hurricane	Storm	Depression	Final Position	Highest Sustained Wind		
								From	To	Kt
Tropical storm Ava	25 May-30 May	251500 11.8-107.0	261200 11.5-109.6			291800 18.0-110.0	301200 18.0-110.2	281200 17.8-110.7	281800 17.9-110.3	55
Tropical cyclone Two	30 May-1 Jun.	301800 12.1-87.8					010000 13.2-89.0	311200 13.2-89.0	010000 13.2-89.0	30
Tropical cyclone Three	9 Jun.-11 Jun.	091800 13.2-92.5					110000 14.8-95.2	100000 14.0-93.0	100600 14.5-93.7	30
Tropical storm Bernice	25 Jun.-28 Jun.	251500 13.0-109.0	261200 15.0-114.0			280000 19.6-121.4	280600 20.1-123.4	261800 15.6-115.9	270600 17.1-117.7	40
Hurricane Claudia	3 Jul.-7 Jul.	030000 14.5-110.9	030600 14.8-111.7	040345 15.2-114.4	050000 15.5-117.0	070000 16.0-127.1	071200 16.2-130.0	040600 15.2-114.7	041800 15.4-116.1	80
Tropical cyclone Six	8 Jul.-9 Jul.	080000 13.6-117.0					090600 16.3-123.0	080600 14.2-118.2	090600 16.3-123.0	30
Tropical cyclone Seven	9 Jul.-10 Jul.	090000 13.4-105.2					100000 13.0-106.6	090000 13.4-105.2	100000 13.0-106.6	30
Tropical cyclone Eight	25 Jul.-25 Jul.	250000 11.8-135.0					251200 11.8-136.5	250000 11.8-135.0	251200 11.8-136.5	25
Tropical cyclone Nine	1 Aug.-2 Aug.	011600 15.4-127.1					021200 14.8-131.2	020600 15.8-130.1	021200 14.8-131.2	30
Hurricane Doreen	13 Aug.-18 Aug.	130000 17.6-106.5	131800 18.8-107.7	141800 20.3-109.3	160600 26.4-113.2	170600 30.7-117.0	180000 33.0-118.6	141800 20.3-109.3	160600 26.4-113.2	65
Tropical cyclone Eleven	3 Sep.-4 Sep.	031200 21.5-105.5					041200 21.1-111.0	040000 21.0-109.0	041200 21.1-111.0	30
Tropical storm Emily	13 Sep.-14 Sep.	130000 14.0-118.8	130600 14.9-120.0				140600 19.5-123.0	130600 14.9-120.0	140600 19.5-123.0	35
Tropical cyclone Thirteen	19 Sep.-23 Sep.	191200 17.0-109.4					230000 25.0-114.5	200000 17.6-112.4	220000 23.0-116.5	30
Hurricane Florence	20 Sep.-24 Sep.	201800 13.9-124.2	211800 15.1-126.9	220000 15.8-127.8	231200 23.2-124.8	240000 26.2-122.8	240600 27.4-122.3	221800 17.9-127.3	230600 21.2-125.7	90
Tropical storm Glenda	23 Sep.-27 Sep.		232100 10.7-106.5			250000 15.5-109.2	270600 27.8-115.2	232100 10.7-106.5	240600 12.0-107.5	60
Hurricane Heather	4 Oct.-7 Oct.	040000 15.3-107.2	040600 15.8-108.2	050600 18.8-112.1	061800 24.8-116.8	071200 27.9-116.4	071200 27.9-116.4	051200 20.0-113.2	060000 20.9-114.3	75
Tropical cyclone Seventeen	22 Oct.-23 Oct.	220500 14.0-115.0					230600 14.0-116.2	220500 14.0-115.0	221800 14.6-115.6	30

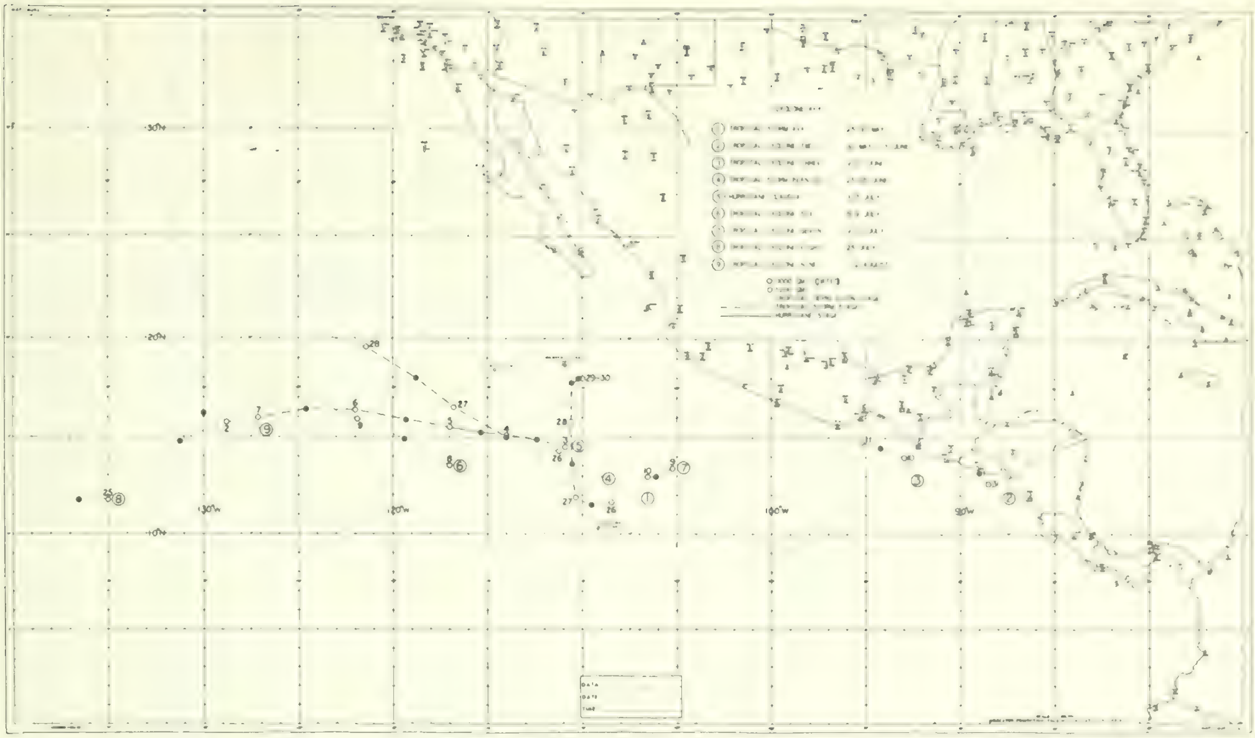


FIG. 1. Tracks of eastern North Pacific tropical cyclones 1–9, 1977.

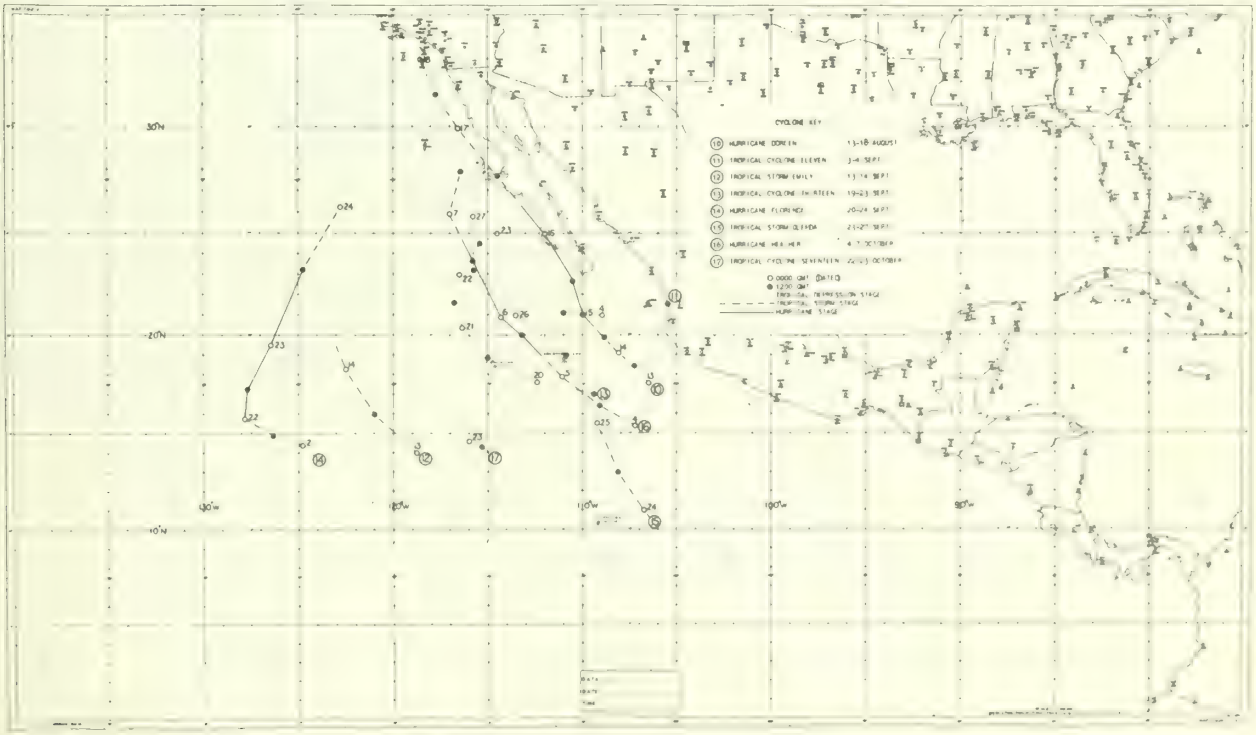
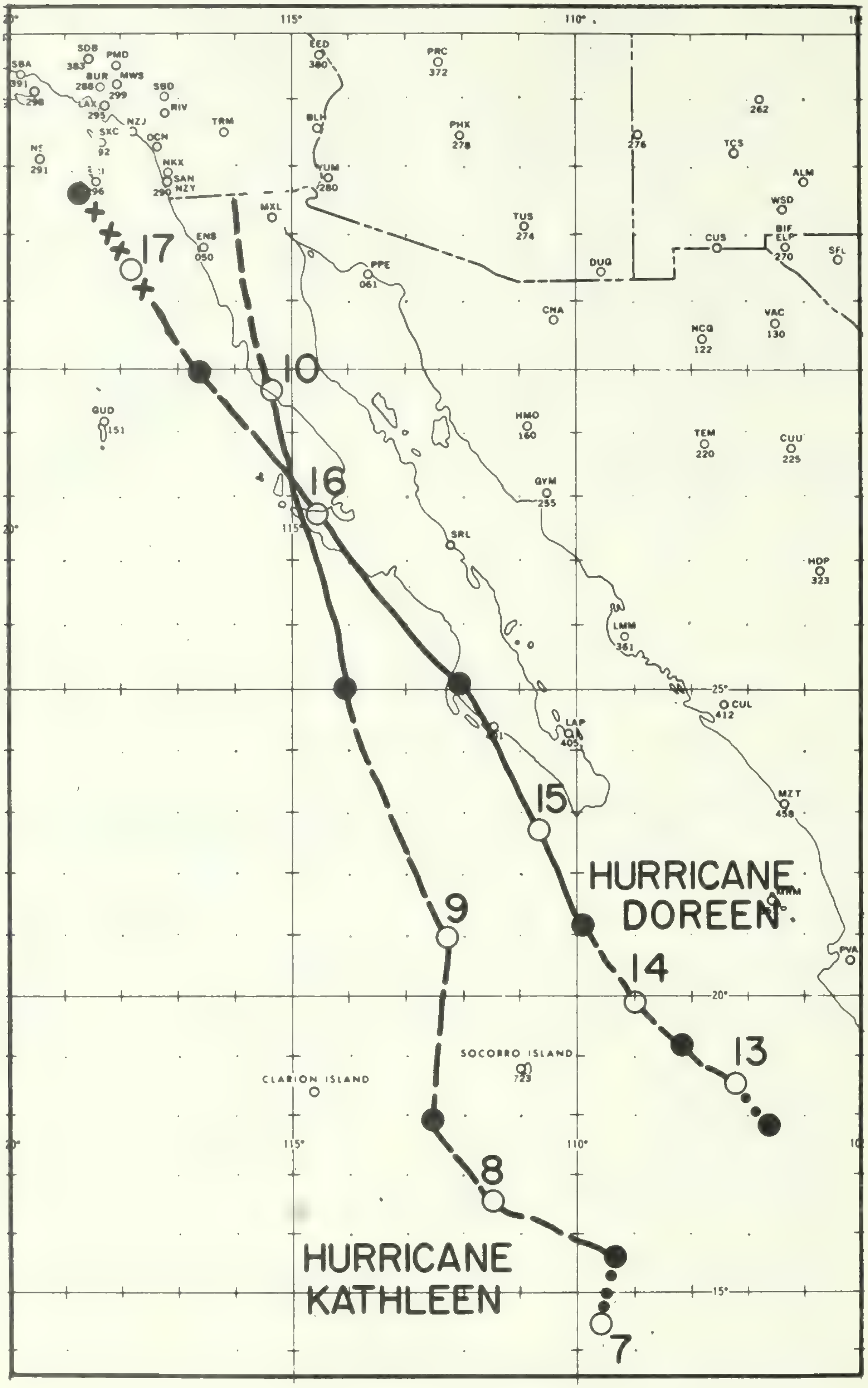

30°N
20°N
10°N
130°W
120°W
110°W
100°W
90°W
CYCLONE KEY
⑩ HURRICANE DOREEN 13–18 AUGUST
⑪ TROPICAL CYCLONE ELEVEN 3–4 SEPT
⑫ TROPICAL STORM EMILY 13–14 SEPT
⑬ TROPICAL CYCLONE THIRTEEN 19–23 SEPT
⑭ HURRICANE FLORENCE 20–24 SEPT
⑮ TROPICAL STORM GLENDA 23–27 SEPT
⑯ HURRICANE HEATHER 4–7 OCTOBER
⑰ TROPICAL CYCLONE SEVENTEEN 22–23 OCTOBER
○ 0000 GMT (DATED)
● 1200 GMT
TROPICAL DEPRESSION STAGE
TROPICAL STORM STAGE
HURRICANE STAGE
DATA
DATE
TIME

FIG. 2. As in Fig. 1 except for cyclones 10–17.



A comparison of the tracks of Doreen (August 1977) and Kathleen (September 1976).

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1977

Extracted from Annual Typhoon Report, 1977, U.S.
Fleet Weather Central, Joint Typhoon Warning Center,
Guam, Mariana Islands

The western North Pacific experienced the smallest number of typhoons since the formation of the Joint Typhoon Warning Center (JTWC) in 1959 during 1977. Of the 21 numbered tropical cyclones occurring during 1977 (table 2), only 11 developed to mature typhoons, 8 peaked out as tropical storms, and 2 did not develop beyond depression stages. Tables 3 and 4 show that both the number of tropical storms and typhoons were well below the quantity normally observed. During the season only Babe reached the 130-kn intensity necessary to be classified as a supertyphoon. January through June were completely void of typhoons and had only two tropical storms, Patsy in March and Ruth in June. This early season lull in activity was similar to that observed during 1973 and 1975. Tropical cyclone occurrences were near normal during July, but fell to a record low for August, when no typhoons and only a single tropical storm were observed. During late July the southwest monsoon of India and Southeast Asia became very deep and intense. It extended anomalously into the western North Pacific and persisted for weeks. The monsoon trough was oriented in an east-northeast to west-southwest direction from Hainan Island to the Bonin Islands. Several cyclonic eddies formed within the trough as monsoon depression; i.e., systems characterized by broad surface circulation centers, highly asymmetric wind fields, surface winds less than 34 kn, greatest intensity at 5,000 to 10,000 ft (1,470 to 2,940 m), and strong vertical shear.

Upon relaxation of the deep, southwest monsoon flow, tropical storm Wanda developed, but did not exceed 45-kn intensity in the environment of strong vertical shear. As Wanda moved east of Japan, she caused the monsoonal flow over the western Pacific to move toward the north, rather than toward the climatologically favored regions where tropical cyclones normally develop. This northward flow toward low pressure continued as several extratropical systems developed near the sea of Japan, south of the normal regions for extratropical cyclogenesis in August. About the middle of August, the deep, southwest monsoon flow again intensified, and again several monsoon depressions formed. When the monsoon finally weakened, tropical storm Amy developed, but barely to 40 kn. Amy again drew the western Pacific region of low pressure far north of its normal position, preventing establishment of a significant near-equatorial trough (NET). In fact, during much of August, pressures were much above normal in the Tropics, and easterly winds dominated the equatorial regions, helping to prevent cyclogenesis. By early September pressures had fallen in the Tropics, flow was back to normal, and supertyphoon Babe developed in the NET, south of Guam. The remainder of the 1977 season for both tropical storms and typhoons was near normal.

Only 12 multiple-storm days occurred in 1977. This was the lowest number of multiple-storm days observed since JTWC began keeping records in 1959. Like 1970 and 1975, there were no days in 1977 in which three or more western North Pacific tropical cyclones occurred simultaneously.

The 1977 tropical-cyclone season was characterized by an abundance of poorly defined cyclones of relatively small radial extent of which many exhibited numerous erratic movements. The weaker cyclones were often inhibited from development by an unusually large and intense subtropical ridge and shear of the horizontal winds with height. In contrast, periods of weak steering currents resulted in five storms executing one or more loops each. Overall losses of life and property were thankfully small. Taiwan, however, survived a 3-mo drought, then experienced two of the worst typhoons in 80 yr, Vera and Thelma.

The cyclone tracks shown in figures 9 to 12 are based on poststorm analysis. Dates include the period from when the storm was detected until it dissipated or became extratropical. Maximum winds are overwater estimates of sustained windspeeds for a 1-min averaging period. Individual typhoons are described in the following narratives. Times are GMT unless otherwise indicated.

SARAH

The first typhoon of the 1977 season did not occur until mid-July. Meteorological satellite data on the morning of July 13 showed an area of convection some 225 mi east of Koror in the Palau Islands. This tropical disturbance meandered on a 10-kn westward track and crossed Koror at 1200 on the 14th. On the 15th the system exhibited increased organization and a formation alert was issued. The disturbance took a more climatological, west-northwestward track and showed evidence of possessing multiple circulation centers.

Satellite' data on the 16th hinted that the westernmost circulation center was becoming the dominant one. Reconnaissance aircraft refuted this, however, and fixed the primary center approximately 200 mi east of the satellite positions. At 0943 aircraft observed 38-kn winds at 700 mb and estimated surface winds at 25 kn. Satellite data 1 hr later showed that convection in the area had, in fact, consolidated around the aircraft-fixed circulation center.

By evening on the 16th satellite data illustrated increased organization, and at 1800 the depression was upgraded to tropical storm Sarah 30 mi east of the Philippine island of Samar. During the next

24 hr Sarah, possessing 40-kn winds, moved toward Manila at 13 kn on a west-northwest to northwest heading. At 2355 on the 17th Clark Air Base observed a minimum sea-level pressure of 997.3 mb and 12-kn northwesterly winds. Within 2 hr winds at the Air Base had become southerly. Synoptic reports were of great value during this period. The mountainous terrain prevented aircraft reconnaissance of the low-level circulation center, while frictional effects weakened and disorganized Sarah, making satellite positioning very difficult.

From the evening of the 16th until the morning of the 20th upper level patterns in Sarah's environment were favorable for enhancement of her upper level outflow, which would normally result in intensification. The tropical upper troposheric trough was oriented east-west and to the north and was enhancing outflow in the north semicircle. Strong divergent winds south of the tropical storm increased outflow to the south. However, while overland, Sarah could not intensify since the latent and sensible heat required to maintain sufficient thermal and related pressure gradients were not available. The tropical storm entered the South China Sea on the afternoon of the 18th and immediately began to intensify.

On the 19th a midtroposheric low over south-central China deepened and weakened the subtropical ridge north of Sarah. She responded and turned to the northwest toward Hainan Island, still intensifying. Sarah was upgraded to a typhoon at 1800 and reached maximum intensity of 75 kn 6 hr later. At 2100 Hsi-Sha-Tao reported sustained winds (10-min average) of 60 kn from the west-southwest and a sea-level pressure of 977.5 mb.

Sarah went ashore on Hainan Island on the evening of the 20th. Her intensity was estimated to be 70 kn. Meanwhile, the midlevel low over China had receded toward the north, and the subtropical ridge began to build westward, north of Sarah. During the next 6 hr the typhoon slowed to 8 kn and took a westward course, passing north of the central mountain range of Hainan. At 1800 Tan-Hsien (19.5°N, 109.6°E) was near the center and reported 15-kn winds from the east-northeast and a sea-level pressure of 969.5 mb.

Typhoon Sarah entered the Gulf of Tonkin on the 21st with an estimated 65-kn intensity. She accelerated to 15 kn and went ashore near Haiphong. The final warning on Sarah was issued at 1200 on the 21st as she was dissipating over the Red River Valley , northwest of Hanoi. Very little damage occurred during Sarah's existence. Only Hanoi radio reported cases of destruction with no casualties.

THELMA

Thelma, the second typhoon of the 1977 season, wrought more destruction on Taiwan than any event since World War II. While typhoon Sarah was still crossing the South China Sea, Thelma was detected by satellite on July 20 as a tropical disturbance in the central Philippine Sea. The disturbance continued to organize during the next 24 hr, and the first warning was issued on the 21st at 0000.

Reconnaissance aircraft at 0918 on the 21st found flight-level winds of 55 kn, central pressure of 993 mb, and surface winds estimated at 50 kn. Based on aircraft data and corroborating satellite data the tropical depression was upgraded to tropical storm Thelma at 1200. During the following 30 hr, Thelma continued to intensify at a rate of 5 kn per 6 hr. At 2050 on the 22nd, aircraft fixed the tropical storm 255 mi northeast of Manila and observed 60-kn winds at its 700-mb flight level. The aircraft further indicated that the central pressure had fallen to 965 mb. As a result of those observations, the system was upgraded to typhoon Thelma at 0000 on the 23d.

The trigger for Thelma's intensification was nearly identical to that of Sarah's a week earlier. Highly efficient outflow channels were provided Thelma by intense cyclonic cells in the upper air to the north and by strongly divergent upper level northeasterlies over Indonesia and the South China Sea to the south.

Thelma continued to move northwestward at 9 kn toward the southern periphery of the midropospheric subtropical ridge. On the 23d the storm entered the Bashi Channel, passing 10 mi northeast of Escarpada Point on northeastern Luzon. At this time the KAKUHO MARU reported 80-kn winds and 20-ft seas just northwest of the center. On the 24th reconnaissance aircraft positioned Thelma 145 mi south-southwest of Kao-hsiung, which indicated that the storm was beginning to move northward. At this time the typhoon attained its maximum intensity of 85 kn with a minimum pressure of 957 mb and slowed to 6 kn. At 1800 the PRESIDENT MCKINLEY reported 45-kn winds and 20-ft seas while some 70 mi northeast of the eye.

On the 25th radar data showed that Thelma had turned to the north-northeast and had accelerated to 10 kn. During the early afternoon of the 25th Thelma crashed into Kao-hsiung harbor. The Chinese Weather Central reported the Kao-hsiung observed 86-kn peak winds accompanied by a 991.5 mb pressure minimum at 0939 local time. Satellite, aircraft, radar, and synoptic data all indicated that the typhoon was small, but very intense. Most damage was confined to the direct path of typhoon Thelma as the central mountain range of Taiwan drastically weakened the peripheral winds east of the typhoon's track. After moving across southwestern Taiwan, Thelma began to weak and moved on a track slightly west of north. On the evening of the 25th, she entered the Taiwan Straits, and on the following morning Thelma went ashore on mainland China, 30 mi north of Fu-Chou with 50-kn winds.

During her rampage over Taiwan, Thelma claimed more than 30 lives, injured thousands, and rendered an estimated 5,000 homeless. The typhoon ripped down 53 steel towers supporting high-tension powerlines. The loss of power closed more than half of the island's 45,000 factories. Taiwan's largest harbor at Kao-hsiung was virtually destroyed. All eight giant cranes used to load and unload cargo were badly damaged or destroyed. At least 17 ships capsized in the harbor. In her few short hours over southern Taiwan, Thelma left destruction amounting to several millions of dollars. According to the Central Weather Bureau of Taiwan, typhoon Thelma was the most destructive tropical cyclone to hit Taiwan in more than 80 yr.

VERA

A tropical disturbance north of the climatologically favored area was first evident on satellite imagery and JTWC's synoptic gradient level analysis at 0000 on July 26 with a cyclonic surface circulation center near 25.5°N, 133.6°E. Exhibiting westward movement over the next 24-hr period, the disturbance gained organization and potential for significant development. By 1800 on the 27th the surface circulation reflected 30-kn winds at the surface, and JTWC's initial warning on the system as a tropical depression was issued at 0000 on the 28th. Subsequent poststorm analysis revealed that the depression had reached minimum tropical storm intensity (35 kn) by initial warning time.

Beginning as far back as the 22d, a low cell imbedded in a tropical upper tropospheric trough had formed to the northeast of the initial warning position. This cell tracked west-southwest and was centered near 30.5°N, 131°E, at 0000 on the 26th. The trough was now nearly east-west oriented, continued to dig toward the west and at the same time an upper level anticyclone over Korea and Japan built eastward. The 200-mb winds at stations along the east coast of Japan reflected 60 to 75 kn out of the north-northeast. By 1200 on the 27th the cell was centered near 27.8°N, 133.5°E, with strong diffluence southeast of the cell over the surface. The vertical coupling had thus been effected, and the necessary condition for tropical-cyclone development fulfilled.

At 0000 on the 28th the depression was upgraded to tropical storm Vera. A generally westward track (260°) at 3 kn was observed. Steering at this point seemed to be governed by the easterly flow on the southern periphery of the major anticyclone over Korea and Japan. By 1200 on the 29th the anticyclone began to build toward the southwest in advance of Vera. As she proceeded southwestward, Vera continued to intensify attaining 65 kn by 1200 on the 29th. By 1800 Vera had intensified to 90 kn proceeding to the southwest at 9 kn. After 1800 a marked decrease in forward speed was noted (from 9 to 4 kn) as the northeasterly steering at upper levels appeared to relax. Simultaneously, an increase in intensity occurred. By 0600 on the 30th Vera's winds were 100 kn, and satellite imagery revealed a well-defined eye, while reconnaissance aircraft reported 100 kn at the 700-mb flight level. By 1200 satellite data showed improved outflow channels aloft to the west and north, and fix positions supported a more west-northwestward track.

Upon making her turn to the west-northwest, it became evident that Vera would likely pass directly over Iriomote-Jima and just to the south of Ishigaki-Jima. Maximum winds were from the southeast at 103 kn at 2200. Minimum pressure was 935.6 mb at 2100. As Vera passed south of Ishigaki-Jima, her speed had increased to 10 kn. Postanalysis revealed that Vera attained her maximum intensity of 110 kn at 0000 on the 31st and decreased in intensity slowly thereafter as she approached Taiwan at a speed of 11 kn.

Landfall occurred on the island of Taiwan at the mouth of the Chi-Lung Ho River basin. Vera followed the river basin to the west-southwest toward Taipei. Keelung recorded a minimum low pressure of 939.9 mb at 0930 on the 31st and a total rainfall of 7.95 in. Maximum winds recorded at the Weather Bureau office in downtown Keelung were 66.6 kn with gusts to 113 kn at 1030. In Taipei a minimum pressure of 951.5 mb was recorded at 1028 on the 31st with total rainfall of 8 in. Taipei International Airport reported maximum wind of 64 kn with gusts to 96 kn. Both Keelung and Taipei established new records in observed maximum wind reports with Vera's passage. After passing over the northeastern part of Taipei City, Vera continued on a nearly westward track and emerged in the Taiwan Straits just north of Hsin Chue at 1500 on the 31st. Vera continued on a westward track and made landfall on the China mainland near Ch'uan-Chou at 0100 on August 1 with an intensity of 80 kn.

Following so closely after typhoon Thelma, which had wreaked havoc on the southern portion of Taiwan, typhoon Vera left at least 25 dead in her wake and vast amounts of property and crop damage. Two ships sank, 10 went aground, 3 were washed away, and 22 were damaged. However, with timely warnings and the occurrence of Thelma 2 weeks earlier, most ships diverted and rode out the storm in the safety of the open sea.

BABE

No typhoons were observed during August. The JTWC significant Tropical Weather Advisory of August 31 stated, "The probability is that the remainder of 1977 should see an increase in typhoon activity." The next day (September 1) the seedling of the year's 10th tropical cyclone and the only supertyphoon was first observed. Babe was a very challening storm in that during her lifetime she threatened virtually every major Department of Defense facility in the western North Pacific.

Satellite and synoptic data on the 1st indicated a weak surface circulation with associated convection near 7°N, 150°E, and a Tropical Cyclone Formation Alert was issued. The first warning of a tropical depression was issued at 0000 on the 2d. An aircraft fix at 0052 estimated maximum surface winds at 40 kn. The depression was upgraded to tropical storm Babe at 0600.

Babe slowly intensified as she moved westward across the warm Philippine Sea. She was being steered at this time by a well-developed midtropospheric subtropical ridge which extended from the dateline into central China. With this westward movement expected to continue, Babe was forecast to cross the Republic of the Philippines and pose a threat to Subic Bay and Clark Air Base. Westward movement continued until early on the 5th. Between the 2d and the 4th, Babe had an average speed of 14 kn. By the 4th at 1200 the speed had dropped to 8 kn, further dropping 5 kn in the following 12 hr.

On the 5th at 0000 an upper air trough in the mid-latitude westerlies appeared over northeastern Asia. A weakness in the subtropical ridge between the trough and Babe became evident and increased the probability of a more northerly storm track. A change in Babe's direction of movement was first noted by satellite data at 2155 on the 5th and confirmed by aircraft reconnaissance at 2243.

Taiwan, which was still recovering from the effects of typhoons Thelma and Vera, was now threatened again. Aircraft data between the 5th and the 7th showed Babe had undergone rapid deepening with the central pressure dropping from 988 mb to 907 mb, a rate of 1.3 mb/hr. This rapid deepening was in response to the divergent southwesterly flow ahead of a strong upper air trough now stretching from east of Japan into central Taiwan which provided a strong outflow channel aloft. Babe was upgraded to a typhoon on the 6th at 0000 and a supertyphoon on the 8th at 0000.

Up until the 8th Babe was forecast to cross Taiwan and then dissipate in mainland China prior to full recurvature. On the 7th at 1200, however, another upper air trough moved into northern China. This short wave additionally weakened the midtroposheric ridge over southeastern China. A low soon developed in this trough over Korea indicating the trough would move slowly and possibly deepen. This increased the probability that Babe would recurve much earlier than expected. This came to pass and as Taiwan was relieved, Okinawa and Japan now faced the fury of Babe. Aircraft and radar data showed Babe began recurvature to the northeast after the 8th at 0600 while weakening at a rate of 5 kn/hr. Conditions of readiness were set for southern Japan, and aircraft evacuated Kadena Air Base for appropriate "safe havens."

During Babe's north-northeastward transit, the upper air low which had formed over Korea moved south-southwestward, deepened, and cutoff from the main upper air trough. Evidence of a Fujiwhara-type effect between Babe's circulation and the cutoff low also appeared. Babe finally steered around the northern periphery of the cutoff low and hit the People's Republic of China just north of Shanghai on the 11th at 0000 with surface winds of 65 kn.

The greatest damage from supertyphoon Babe occurred after she recurved and headed for Japan. Newspaper reports described Babe as "the worst typhoon to threaten Japan in 18 years." Babe struck the Japanese island of Okino-Erabu with winds of 135 kn injuring 45 people and destroying 1,600 homes. Kadena Air Base recorded maximum sustained winds of 36 kn on the 9th and a peak gust of 60 kn at 1328. Babe also disrupted maritime activities sinking a Panamanian freighter with 16 reported dead or missing and damaging approximately 100 Japanese fishing vessels which sought safety in the East China Sea.

DINAH

Dinah, the fifth typhoon of 1977, displayed the most unusual behavior. While over the South China Sea, the storm executed two hairpin turns and one loop before meandering over Southeast Asia during dissipation. Dinah's development, however, was a more normal sequence of events.

Supertyphoon Babe's extensive circulation system aided the monsoon trough to move north of its normal location. After Babe dissipated over eastern China, the monsoon trough extended from Southeast Asia to the Mariana Islands along latitude 20°N. South of the trough, deep southwesterly flow produced local galeforce winds and extensive areas of thundershowers. North of the trough, steady easterlies prevailed. Although the opposing currents produced considerable cyclonic shear and relative vorticity within the trough, the counter-productive northeasterlies in the upper troposhere produced enough vertical shear to prevent significant tropical-cyclone development. Meteorlogical satellite data during the second week of September showed several loosely organized areas of convection within the monsoon trough. On the 12th synoptic data located a low-level circulation center 400 mi to the north of Guam. Maximum intensity near the center was estimated to be 20 kn, while local gale-force winds continued within the southwest monsoon current to the southern and eastern periphery of the monsoon trough.

The circulation center initially moved northwestward at an average speed of 16 kn. Satellite data soon identified a distinct vortex which separated from the areas of southwest monsoon cloudiness. The disturbance now moved westward as it entered the steering influence of an anticyclone over the East China Sea. Satellite pictures showed larger and better developed banding features. Corresponding surface reports also indicated intensification. Postanalysis, however, found that the disturbance had achieved tropical depression intensity by 1800 on the 13th and tropical-storm stage by 0000 on the 14th. Because of favorable conditions present during this time, another disturbance about 300 mi north of Guam developed into tropical storm Emma.

On becoming tropical storm Dinah, the pressure gradient between the storm and the subtropical ridge increased. The associated easterly steering currents corresponding increased and accelerated Dinah to a maximum speed of 19 kn. An intensifying, midtropospheric high over eastern China was now the primary source of these easterlies. As this high-pressure cell continued to build, Dinah moved southwestward toward the Republic of the Philippines. Her forward speed decreased as the gradient slackened. Steady intensification continued as upper level outflow was well established in all quadrants. This trend persisted until Dinah reached minimum typhoon strength at 0600 on the 15th just 100 mi off northern Luzon. With a maximum intensity of 55 kn the storm entered Luzon 35 mi south of Escarpada Point at 1500. That evening Dinah passed near Tuguegarao, a station in northeastern Luzon, which experienced 96-kn peak winds and a mean sea-level pressure of 977 mb.

After 7 hr over land, Dinah entered the South China Sea and weakened to 40 kn, but reintensified to 50 kn during the next 14 hr. Headed west-southwestward, Dinah entered an area of weaker steering currents. The dominating anticyclone over China was beginning to weaken and midlatitude westerlies began extending southward. By the 17th the continued weakening of steering currents caused the storm to slow.

For the next 4 days Dinah exhibited unusual behavior. The weakening subtropical ridge over China broke down into a series of smaller high cells, while the southwest monsoon deepened. Caught between these oscillating and opposing steering sources, Dinah abruptly turned northeastward and then executed a loop during the 17th. As the southwest monsoon strengthened and became the dominant steering flow, the storm was directed northeastward toward Taiwan.

Intensification resumed as a result of the enhanced monsoon. The weakening subtropical ridge and increasing outflow aloft also contributed to Dinah's growth. By 1800 on the 18th typhoon strength was achieved again. By the 19th an advancing midlatitude trough over China aided in steering Dinah eastward. Sustained winds of 65 kn persisted as satellite imagery revealed an eye. At 0000 on the 20th, Dinah reached a short-lived maximum intensity of 75 kn. Ever since Dinah's origin, the southwest monsoon was the major feeding current. This flow was now being diverted into the beginnings of tropical storm Freda in the Philippine Sea and Dinah began to weaken.

As a midlatitude trough advanced over China, a large high-pressure area built behind it. In response, Dinah slowed, turned westward, then southwestward under the influence of the intensifying high over China. Dinah was the first storm to be directly affected by an early autumn surge in the northeast monsoon. Northeasterlies from the strong high over China controlled Dinah's movement for the next 2 days. Diminishing, moist southwesterlies and increasing, dry northeasterlies steadily weakened the storm. Dinah accelerated southwestward and reached south Vietnam as a weak tropical depression.

After landfall, Dinah, in its dissipating stage, persisted for 4 days. Tropical storm Freda and the weakening of the northeast monsoon were the controlling agents in the last days of Dinah's unusual track. After crossing the South China Sea, Freda entered southern China drawing the southwest monsoon northward. Once again embedded in a southwest steering current, Dinah journeyed northward through Cambodia, northeastward over the Gulf of Tonkin, then northward into southern China and finally dissipated.

Dinah's sweep across northern Luzon caused loss of lives and property. Floods and landslides caused 15 deaths and 11 missing.

GILDA

On October 1 a large area of heavy convection 300 mi in diameter was detected approximately 325 mi north of Ponape. Synoptic data indicated a weak surface circulation in the vicinity. The system was moving northward toward a weakness in the midtropospheric subtropical ridge. Aircraft reconnaissance on the 3d reported 38-kn winds at the 1,500-ft flight level. Based on this data and the assessed good potential for further intensification, the first warning was issued at 0000 on the 3d.

For the next 18 hr the tropical depression moved erratically toward the north. The midtropospheric subtropical ridge to the northeast began to build to the west. Divergent southwesterlies aloft, on the southeast periphery of the upper level cyclonic cell, enhanced the outflow, and by 1800 on the 3d the system had reached tropical-storm intensity.

Tropical storm Gilda continued to intensify on the 4th as she accelerated to 12 kn on a northwestward track. Reconnaissance aircraft on the 5th indicated 80-kn winds at the 700-mb flight level and observed that the central pressure had fallen to 974 mb, a 15-mb drop in 11.5 hr. Gilda was upgraded to a typhoon at 0600.

A midtropospheric, short-wave trough had moved eastward from eastern China toward Japan and began to deepen. By the 5th this trough had moved east of northern Japan and had dug sufficiently equatorward to sever the subtropical ridge north of Gilda. By the 6th the typhoon had acquired a north-northwestward track toward the weakness in the ridge. Aircraft reconnaissance showed that the central pressure had risen to 986 mb; consequently, Gilda was downgraded to a tropical storm. This weakening, however, was short-lived; 24 hr later she again attained typhoon intensity. On the 7th Gilda passed through the weakness in the subtropical ridge and shortly thereafter began recurving toward the north-northeast. As is frequently observed with October tropical cyclones, typhoon Gilda continued to intensify after recurvature. She attained peak intensity of 70 kn on the 8th when aircraft reported a minimum sea-level pressure of 968 mb.

By nighttime on the 8th, Gilda had again weakened to tropical-storm strength. During the next 36 hr the storm accelerated rapidly toward the east-northeast. On the morning of the 10th, Gilda became extratropical, moving toward the east-northeast at more than 30 kn.

During her 8-day span, the closest point of approach to land was 220 mi southwest of Marcus Island on the evening of October 5. The ocean ships stayed well away from Gilda's strong winds. As a reult, Gilda claimed no loss of life or damage to property.

IVY

Ivy, the seventh typhoon of 1977, originated from an easterly wave. She was first detected by synoptic data moving westward over the Marshall Islands on October 14. Within 24 hr the storm entered an area of increased low-level convergence associated with the near equatorial trough (NET), intensified, and developed a surface circulation. Ivy's development was also aided by the movement of tropical storm Harriet, which was also embedded in the NET. Harriet moved northward through the Philippine Sea displacing the NET northward. This northward shift allowed for an increase in favorable conditions for intensification. By the 19th the developing cyclone (Ivy) was receiving most of the low-level, southwesterly flow that was previously supplied to the now weakening Harriet. The next day satellite data indicated that the disturbance's convective activity and organization had increased, while surface reports indicated that the central pressures were steadily falling.

Upper tropospheric synoptic data on the morning of the 21st indicated that the outflow pattern above the alert area was continuing to strengthen. Aerial reconnaissance detected an organized surface cyclonic circulation with a 996-mb central pressure. Reconnaissance data further indicated that the disturbance was moving northward just east of the Mariana Islands.

On the morning of the 20th the depression began moving through a break in the subtropical ridge previously opened by Harriet. This was also an area of weak and variable steering currents. From the 21st to the evening of the 22d there was a lack of any definitive, middle-tropospheric steering flow which resulted in erratic movement of the storm. For 36 hr Ivy meandered and then looped before heading northeastward as a tropical storm. Aircraft reconnaissance on the 21st observed maximum flight-level 700-mb winds of 38 kn associated with the storm.

From the evening of the 22d the storm began to accelerate and move northeastward in response to an eastward-moving, short-wave trough in the midlatitude westerlies. This created an upper air regime which was favorable for further intensification. On the morning of the 24th Ivy reached typhoon intensity. Reconnaissance aircraft recorded a central pressure of 957 mb and observed sustained 700-mb winds of 75 kn about an eye 30 mi in diameter.

Ivy continued moving northeastward and passed 20 mi northwest of Marcus Island on the 24th. Marcus reported sustained 70-kn winds at 1800 and 111-kn gusts at 2100. As Ivy continued northeastward, further intensification took place. A maximum strength of 90 kn was reached on the 25th. New aircraft data reported a well-defined eye with a 945-mb central pressure. Typhoon Ivy maintained maximum intensity for 12 hr. The continued northward displacement was due to the increasing influence of a quasi-stationary, upper level trough east of Japan. This also caused the storm to enter a cooler environment which began to degrade Ivy into an extratropical system. The last warning was issued at 1800 on the 26th. Ivy quickly weakened and became extratropical along a cold front.

JEAN

Tropical cyclone Jean established two season records: first, as the shortest lived typhoon of the season; and second, as the only tropical cyclone of 1977 for which a formation alert was not issued prior to the initial warning. Jean was first observed as a weak disturbance some 200 mi southeast of Kwajalein Atoll on October 24. While moving northwestward, the disturbance was included on JTWC's Significant Tropical Weather Advisory for the next several days. The disturbance was located downstream of an upper tropospheric trough axis in a diffluent area aloft, a favored position for development. By 1200 on the 27th an upper tropospheric outflow center (200 mb) was analyzed over the surface positions, further supporting development.

Due to the presence of a ship in close proximity to the cyclone, the initial warning on the tropical depression was issued at 1200 on the 28th with an intensity of 30 kn and a northwesterly movement at 14 kn. Satellite data over the next 6 to 12 hr showed an increase in intensity, and at 1800 the depression was upgraded to tropical-storm status. At this same time Jean was beginning to show a more northward trend and had slowed appreciably to a speed of 6 kn. The more northward thence north-northeastward track was attributed to upper and midtropospheric level steering influences which were dominant above the easterly steering flow near the surface and in the lower troposphere.

On the 29th reconnaissance aircraft penetrated the storm and observed surface winds near 60 kn and also reported that an eye was beginning to form. Satellite imagery at 0905 further supported the observed intensification; consequently, at 1800 on the 29th Jean was upgraded to a typhoon. Satellite positioning also dictated a more north-northeastward track. Jean maintained minimum typhoon intensity for only the next 6 hr, thereby establishing the aforementioned record as the shortest lived typhoon of the season.

Postanalysis revealed that beyond the 0000 position of Jean on the 30th she began to react to the effects of very strong vertical shear. At the surface and at low tropospheric levels, steering flow was strong easterly around the southern periphery of the subtropical ridge. Under this hostile regime, Jean began to weaken and had made her furthest northeastward incursion by 1200 on the 30th at an intensity of 55 kn. Satellite data showed an exposed low-level circulation center to the west of the area of major convective activity. Jean began to weaken rapidly and moved west and then west-northwestward in response to the east/east-southeasterly steering at low tropospheric levels.

The final warning was issued at 1200 on the 30st with dissipation forecast within 12 hr. The low-level circulation was closely monitored by satellite for signs of reintensification for the next 24 to 36 hr. By November 1 the disturbance began to show an improved satellite signature with an increase in convective activity, and a warning was issued again at 0000 on the 2d. At this time the depression was meandering northward and showed an intensity of 30 kn. For the next 12 to 24 hr, the system executed a looping movement, and by 1450 satellite data again showed the effect of strong vertical shear with an exposed low-level circulation visible to the west of the main convection. Once sheared off, the low-level circulation responded to low tropospheric northeasterly flow around the southeastern periphery of a large anticyclone centered over the Sea of Japan. The low-level circulation center continued tracking to the southwest and then west-southwest, remaining weak but visible on satellite imagery until early on the 6th.

KIM

Kim originated on an active near-equatorial trough which extended through the western Marshall Islands. Weak surface circulations existed within this trough near Ponape and Kwajalein. On November 2 this activity consolidated into a single surface circulation 100 mi southwest of Ponape with a central pressure of 1007 mb. The disturbance began moving northwestward within the NET at approximately 6 kn.

On the 3d a circulation center was about 150 mi to the northwest of Ponape. Aircraft reconnaissance on the 5th found a central pressure of 1007 mb and estimated maximum surface winds at 20 kn. A second aircraft investigation on the 6th fixed the system with a 1004-mb central pressure and maximum surface winds of about 25 kn. The first warning was issued at 0600 on the 6th, and the system was upgraded to tropical storm Kim just 12 hr later.

Kim turned toward Guam at a speed of approximately 10 kn. Slow intensification occurred during the next 48 hr due to the dominance of a strong subtropical ridge to the north. A short-wave trough in the upper tropospheric westerlies also hampered rapid development by restricting outflow to the north of Kim, However, after the trough passed, outflow aloft steadily strengthened. A deepending long-wave trough over eastern Asia was now beginning to weaken the subtropical ridge which had previously suppressed Kim's low-level development. Satellite data on the 8th indicated increased organization. Kim began to intensify at a rate of 30 kn in 24 hr, and the central pressure dropped 22 mb in a 24-hr period.

Kim passed directly over Guam on the 8th between 1020 and 1235 approaching from the east-southeast, moving westward over the island, and exiting toward the west-northwest. The eye entered with a circular configuration and exited with an elliptical configuration. The duration of the eye passage over the island lasted up to 1 hr and 10 min near the center of the storm track. The peak gust recorded was 77 kn on Nimitz Hill. The greatest damage was in the southern end of the island where 22 homes were damaged or destroyed. Fortunately, no lives were lost on Guam.

Kim was upgraded to typhoon strength at 2200 local time on the 8th just after exiting Guam. For the next 48 hr the storm continued to intensify. The subtropical ridge continued to slowly weaken throughout this period, but it maintained sufficient strength to steer Kim in a west-northwestward direction. Kim advanced toward another weakness in the ridge between two subtropical high-pressure cells. As the tropospheric steering flow weakened, forward speed decreased and intensification increased. When Kim was nearest this weakness within the ridge, she attained a maximum intensity of 125 kn.

Kim was soon headed straight for central Luzon. Landfall occurred on the 13th causing extensive damage on the coastline with winds of 115 kn. The storm passed about 35 mi north of Manila and 5 mi south of Clark Air Base.

The typhoon exited into the South China Sea 7 hr after landfall with an intensity of 65 kn. This amount of weakening is in good agreement with the latest climatological studies of intense typhoons crossing Luzon. Even though the South China Sea had warm sea-surface temperatures, Kim never reintensified due to strong, cool northeast monsoon flow entraining into the storm environment. Rapidly decelerating, Kim turned northward. Kim became an extratropical system by the 17th and merged with a weak frontal system east of Taiwan.

Kim was a long-lived storm with 44 warnings during a 12 day period. Guam sustained moderate property damage when Kim crossed the island as a strong tropical storm. Luzon, however, reported 55 drownings due to widespread flooding. In Manila a fire in a hotel, caused by a lighted candle, during the height of the storm resulted in 47 deaths. Minor damage occurred at Clark Air Base with a roof blown from a school building and falling trees causing other damage. One ship sank, while another went aground as Kim exited into the South China Sea.

LUCY

Lucy was in most respects a typical winter-season storm. Development was difficult and near the Equator, while recurvature occurred as a low latitude. An unusual event happened during the development stage when the system divided into two disturbances and then recombined 2 days later.

As with the previous typhoon (Kim), Lucy's birth was a "double-vortice" development pattern. In this particular case a tropical cyclone in the Southern Hemisphere near-equatorial trough developed first and was well on its way to maturity before Lucy formed in the Northern Hemisphere NET. The expanding circulation about the Southern Hemisphere tropical cyclone (Steve) strengthened the westerly flow along the Equator, increasing the horizontal shear along the Northern Hemisphere NET and aiding the development of Lucy. On November 26, 33-kn gradient-level winds were observed at Tarawa, an island about 75 mi north of the Equator. Westerlies extended above 500 mb and created an extensive horizontal wind shear trough north of the Equator. Enough cyclonic spin was imparted over the Marshall Island area that the nearby preexisting disturbance began to develop.

A large midtropospheric anticyclone dominated the subtropical western Pacific and concentrated strong trade winds north of the depression. Synoptic data indicated an increase in circulation size and satellite imagery showed better organization. Weather reconnaissance aircraft were sent in to investigate further. Early on the 28th aircraft found a 997-mb surface pressure center with 30-kn surface winds and 45-kn flight-level winds at 1,500 ft. At 1200 on the 28th the depression crossed the southern coast of Ponape with only 10-kn sustained winds and 25-kn gusts.

On the 29th the depression split into two disturbances. One went northwestward, and the other west-southwestward around the Truk Islands. This split occurred when increasing amplitudes in the midlatitude long-wave patterns strengthened the subtropical, midtropospheric anticyclone which was positioned to the north. The pressure gradient generated 45-kn easterly flow at 500 mb. The resulting intense, horizontal shear produced enough vorticity to induce a secondary circulation system to the north. As they separated, both systems weakened as their energy sources also became divided. As the dual system moved westward away from the dominating influence of the subtropical high, horizontal shear and induced vorticity diminished. This resulted in the northern system's deceleration and dissipation. The primary southern system soon caught up and absorbed the remnants of the northern system 100 mi northwest of Woleai Atoll. By 0000 on December 1, the tropical depression was again a single system with the same intensity as before the split. The depression became tropical storm Lucy at 0600. Aircraft data, however, still indicated that the storm was best developed in the middle layers.

Lucy headed for the Republic of the Philippines, attained typhoon intensity at 0600 on the 2d, and continued to deepen. Synoptic and satellite data showed excellent upper level divergence in all quadrants. Aircraft reconnaissance began reporting maximum winds nearer the surface, indicating better vertical development. At this time Lucy attained a maximum intensification rate of 20 kn per 6 hr, and satellite data revealed a large, well-defined eye.

By December 3 Lucy was again heading northwestward. At 1800 a 115-kn maximum intensity was reached. Within the next 12 hr, Lucy recurved ahead of an approaching trough. The storm soon became completely embedded in midlatitude westerly flow and accelerated northeastward. Lucy was downgraded to tropical-storm stage 48 hr after recurvature. Upper level vertical shear and low-level cool, dry entrainment became the significant factors for weakening. Lucy was eventually steered into a frontal zone and became an extratropical wave within the boundary.

MARY

Mary, the 11th and final typhoon of the year, moved across the western Pacific for 15 days and covered 4,002 mi, the second-longest storm on record for distance traveled. On December 19 satellite data detected a tropical disturbance moving slowly east-northeastward near 9°N, 177°E, where weak steering currents existed. Steering was primarily influenced by winter-season westerlies, which extended far into the subtropics. During the next few hours, satellite data indicated slow intensification, while a well-defined comma-shaped cloud was becoming evident. On the 20th the system became quasi-stationary near 10°N, 179°E, as the westerlies gradually receded northward. During this period the system grew to tropical-storm strength as GOES imagery indicated increased outflow to the north.

After 1200 on the 21st the storm began to accelerate westward. On the 22d Mary turned toward the west-northwest. By 0000 on the 23d Mary reached typhoon intensity as satellite data indicated formation of an eye. The first aircraft reconnaissance entered the storm at 0115 on the 24th and reported 90-kn maximum surface winds and 75-kn winds at 700 mb. Satellite data also estimated the storm's intensity to be 75 kn. About 5 hr later, Mary began to decelerate, turned northward, and appeared as though recurvature was beginning. The subtropical ridge established itself; Mary responded by looping clockwise, and she was subsequently influenced by the northerly flow around the eastern edge of a strong, eastward-migrating anticyclone. The storm now moved south-southwestward at 5 kn. Satellite data indicated Mary had continued to intensify, and on the 25th aircraft reconnaissance indicated a central pressure of 947 mb with maximum sustained surface winds of 100 kn. Just 3 hr later, Utirik Atoll, 55 mi southeast of Mary, recorded winds of 40 kn.

Mary soon began to accelerate to 12 kn and moved to the west-southwest along the southeastern periphery of the strengthening subtropical high cell. By the 26th satellite data indicated that Mary had weakened, and she was downgraded to a tropical storm.

By the 28th Mary was moving west-northwestward in response to another trough-induced weakness in the subtropical ridge. She again slowed and intensified. As the trough moved rapidly eastward, Mary turned west-southwestward and began to weaken for the second time. Mary moved westward for the next several days. Weakening slowly, she was downgraded to a tropical depression at 0000 on January 1. The system maintained 30-kn wind until moving over the central Philippines near Leyte Gulf. Satellite data indicated rapid dissipation over land. Mary turned sharply southward over the Philippines and encountered the strong northeast monsoon, which aided dissipation.

Although Mary was not the longest lived storm on record, the 4,002-mi distance traveled was the second longest. What is also noteworthy is that there were no injuries or major damage during her long journey across the western Pacific. Mary was indeed a fitting end to a most unusual tropical-cyclone year.

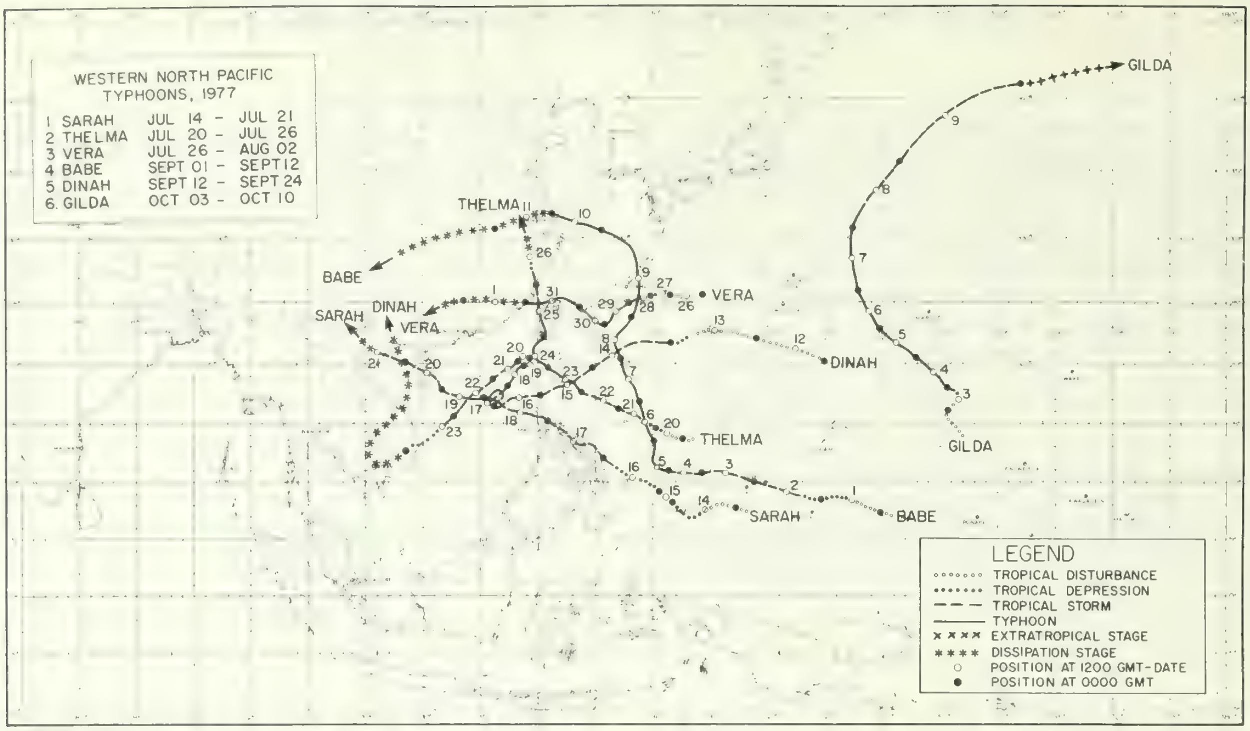


Figure 9.--Tracks of western North Pacific typhoons, July 14 to October 10, 1977.

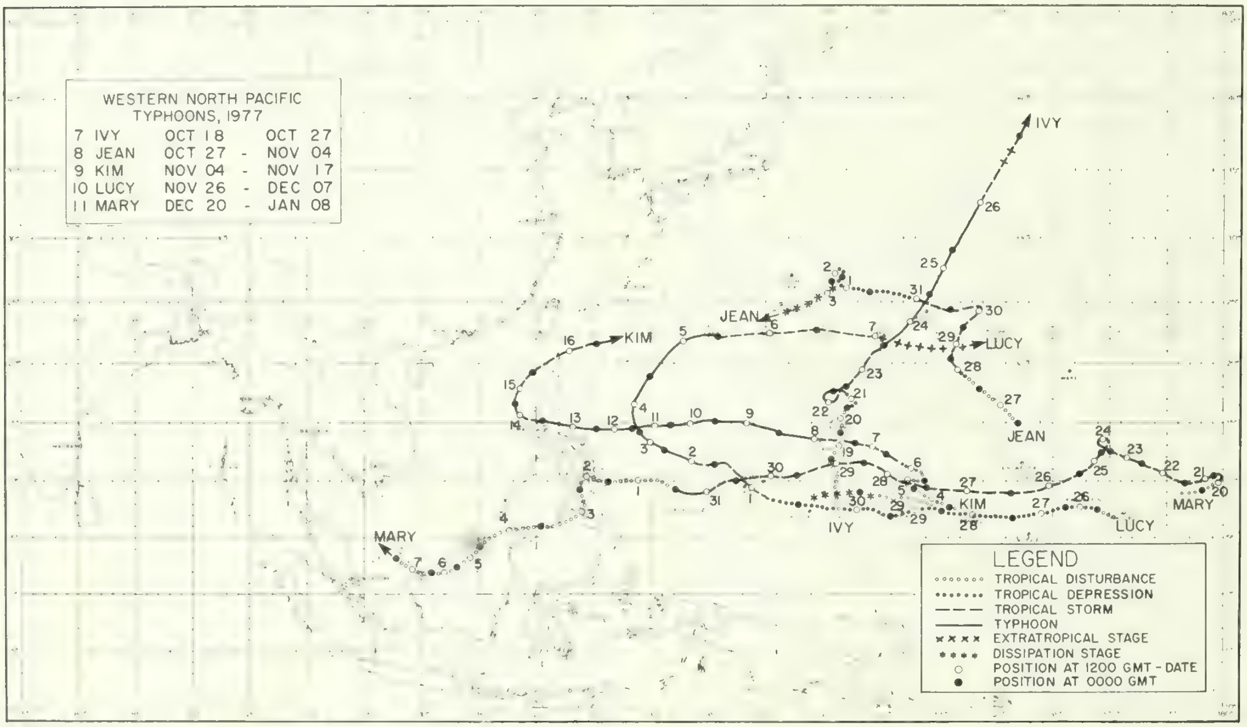


Figure 10.--Tracks of western North Pacific typhoons, October 18, 1977, to January 8, 1978.

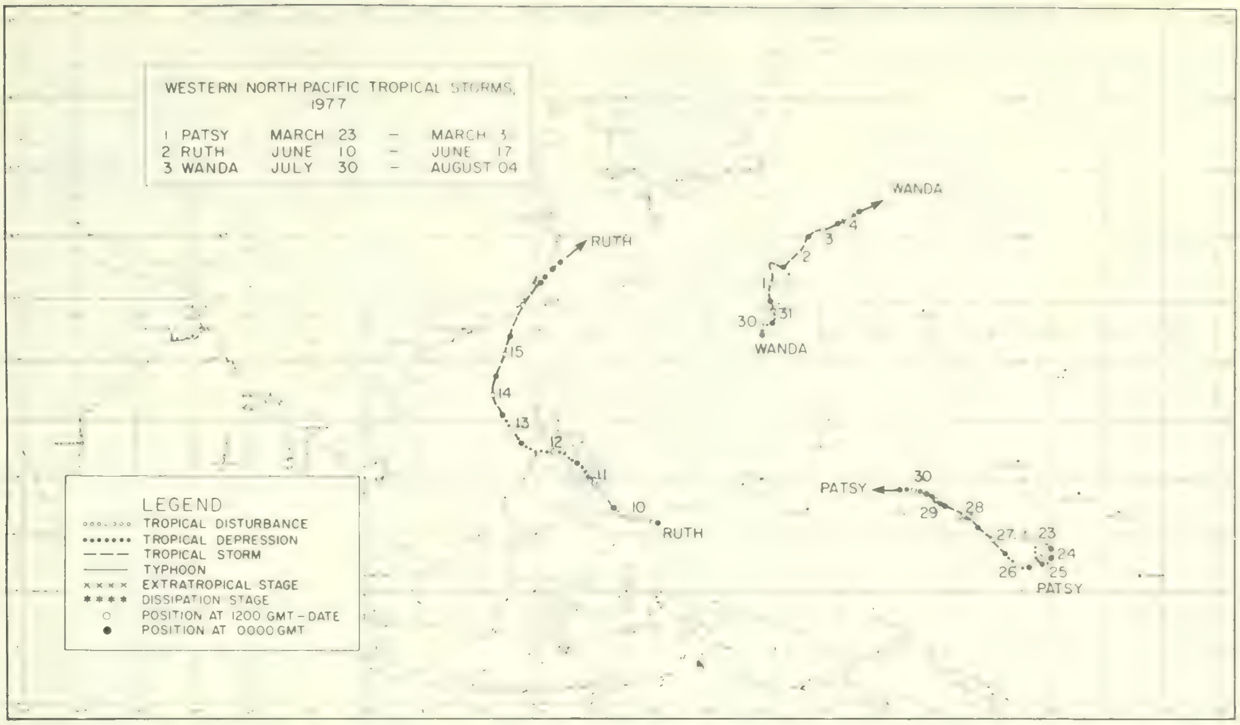


Figure 11.--Tracks of western North Pacific tropical storms, March 23 to August 4, 1977.

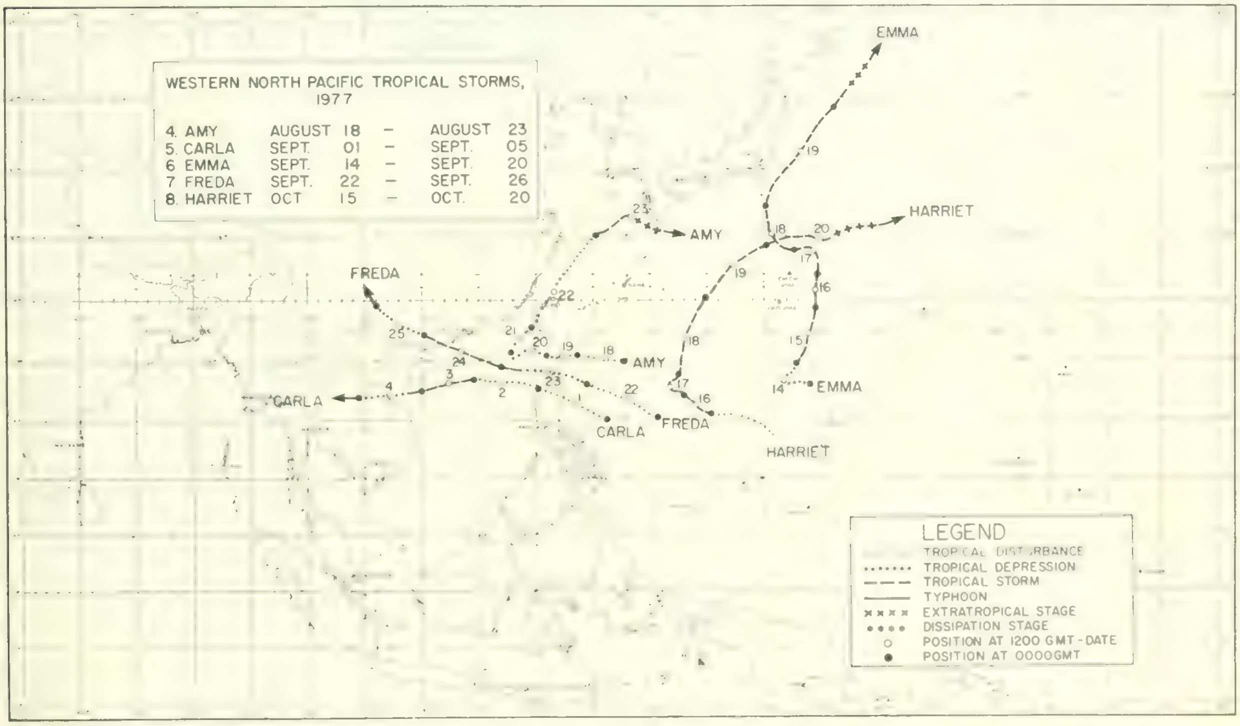


Figure 12.--Tracks of western North Pacific tropical storms, August 18 to October 20, 1977.

Table 2.--Western North Pacific tropical cyclones, 1977

Name	Intensity	Period of Warning	Maximum surface wind (kn)	Minimum observed sea level pressure(mb)
Patsy	TS	March 23-31	50	981
Ruth	TS	June 14-17	60	980
Sarah	TY	July 16-21	75	970
Thelma	TY	July 21-26	85	957
Vera	TY	July 28-August 1	110	926
Wanda	TS	July 31-August 4	45	986
Amy	TS	August 20-23	40	990
Babe	STY	September 2-10	130	906
Carla	TS	September 3-5	35	994
Dinah	TY	September 14-23	75	964
Emma	TS	September 15-20	60	966
Freda	TS	September 23-25	55	997
Gilda	TY	October 3-10	70	968
Harriet	TS	October 16-20	55	984
Ivy	TY	October 21-27	90	945
Jean	TY	Oct. 28-31, Nov. 2-3	65	972
Kim	TY	November 6-17	125	916
Lucy	TY	Nov. 28-Dec. 7	115	919
Mary	TY	Dec. 20-Jan. 3	100	947

TY - typhoon; TS - tropical storm; STY - supertyphoon

Table 3. -- Frequency of tropical storms and typhoons by month and year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Average (1945-58)	0.4	0.1	0.4	0.5	0.8	1.3	3.0	3.9	4.1	3.3	2.7	1.1	22.0
1959	0	1	1	1	0	0	3	6	6	4	2	2	26
1960	0	0	0	1	1	3	3	10	3	4	1	1	27
1961	1	1	1	1	3	2	5	4	6	5	1	1	31
1962	0	1	0	1	2	0	6	7	3	5	3	2	30
1963	0	0	0	1	1	3	4	3	5	5	0	3	25
1964	0	0	0	0	2	2	7	9	7	6	6	1	40
1965	2	2	1	1	2	3	5	6	7	2	2	1	34
1966	0	0	0	1	2	1	5	8	7	3	2	1	30
1967	1	0	2	1	1	1	6	8	7	4	3	1	35
1968	0	0	0	1	1	1	3	8	3	6	4	0	27
1969	1	0	1	1	0	0	3	4	3	3	2	1	19
1970	0	1	0	0	0	2	2	6	4	5	4	0	24
1971	1	0	1	3	4	2	8	4	6	4	2	0	35
1972	1	0	0	0	1	3	6	5	4	5	2	3	30
1973	0	0	0	0	0	0	7	5	2	4	3	0	21
1974	1	0	1	1	1	4	4	5	5	4	4	2	32
1975	1	0	0	0	0	0	2	4	5	5	3	0	20
1976	1	1	0	2	2	2	5	3	5	1	1	2	25
1977	0	0	1	0	0	1	4	1	5	4	2	1	19
Average (1959-77)	0.5	0.4	0.4	0.8	1.2	1.6	4.6	5.6	4.9	4.2	2.5	1.2	27.9

Table 4. -- Frequency of typhoons by month and year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Average (1945-58)	0.4	0.1	0.3	0.4	0.7	1.1	2.0	2.9	3.2	2.4	2.0	0.9	16.3
1959	0	0	0	1	0	0	1	5	3	3	2	1	20
1960	0	0	0	1	0	2	2	8	0	4	1	1	19
1961	0	0	1	0	2	1	3	3	5	3	1	1	20
1962	0	0	0	1	2	0	5	7	2	4	3	0	24
1963	0	0	0	1	1	2	3	3	3	4	0	2	19
1964	0	0	0	0	2	2	6	3	5	3	4	1	26
1965	1	0	0	1	2	2	4	3	5	2	1	0	21
1966	0	0	0	1	2	1	3	6	4	2	0	1	20
1967	0	0	1	1	0	1	3	4	4	3	3	0	20
1968	0	0	0	1	1	1	1	4	3	5	4	0	20
1969	1	0	0	1	0	0	2	3	2	3	1	0	13
1970	0	1	0	0	0	1	0	4	2	3	1	0	12
1971	0	0	0	3	1	2	6	3	5	3	1	0	24
1972	1	0	0	0	1	1	4	4	3	4	2	2	22
1973	0	0	0	0	0	0	4	2	2	4	0	0	12
1974	0	0	0	0	1	2	1	2	3	4	2	0	15
1975	1	0	0	0	0	0	1	3	4	3	2	0	14
1976	1	0	0	1	2	2	3	0	4	1	0	0	14
1977	0	0	0	0	0	0	3	0	2	3	2	1	11
Average (1959-77)	0.3	0.1	0.1	0.7	0.9	1.1	2.8	3.6	3.2	3.2	1.6	0.5	18.3

FLOOD STAGE

YEAR 1977

The following sections, which would normally appear in this issue of the climatological data, have been delayed. They will appear as delayed data in a subsequent issue which normally carries late reports:

Estimated Flood Losses - 1977

Loss of Life and Property in the United States from Floods - 1977

Distribution of Estimated Flood Losses - Charts - 1977

Losses in Individual Severe Floods - 1977

Flood Damage Estimates by States - 1977

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

YEAR 1977

Jose O. Marrero, Office of Hydrology

There were two major flood events. The first took place in April. A four-state area of the Southern Appalachians reported a total of 22 lives lost and damages exceeding $424 million. The Johnstown, PA. area reported flash flooding in July, with losses of $330 million and 76 lives lost with 10 persons missing.

The total flood-related losses for the year were estimated to be $1,393,781,000, and at least 212 lives were lost. According to the current records dating back to 1925, this year ranks sixth in lives lost.

JANUARY

There was no major flooding throughout the country for the third consecutive month. However, significant losses were reported in the Suwannee River Basin in southern Georgia and northern Florida.

Flooding continued from late December on the Santa Fe River due to high levels in the Suwannee River. The flooding lasted through January, ending on February 1. Considerable damage was reported to residential property, and some crop losses also occurred. Damage was estimated at $140,000.

Flash or urban flooding was reported in eastern Massachusetts, Rhode Island, New Jersey, and in northeastern Puerto Rico.

Record-breaking cold weather caused excessive river ice formation in northern sections of the country. Ice jam flooding occurred on the Muskegon River in Michigan, the Yellowstone River in Montana, the Missouri River in Nebraska, and the Portneuf River in Idaho.

FEBRUARY

No major flooding occurred over the country. However, a moderation of the severe cold of January melted snow cover and broke up heavy river ice in the northern areas. Numerous ice jams occurred with some local flooding from backwater. Heavy rains added to the problem in the Northeast with extensive urban flooding in southern New England. Other areas affected by ice jams were the upper Ohio River Basin, the lower Missouri River, the upper Mississippi Basin in Iowa, Wisconsin and Illinois, and the Portneuf River in Idaho.

Moderate flooding occurred on the upper Sabine and Trinity Rivers, the lower Guadalupe and Sulfur Rivers in Texas. Minor flooding reported in the Tombigbee Basin in Alabama, Wabash Basin in Indiana, and several West Gulf Drainage streams.

MARCH

Severe flooding occurred in several Northeast areas with losses exceeding $13 million. The hardest hit include Vermont, southern Maine and the upper Susquehanna River Basin in New York. The flooding resulted from a combination of heavy rainfall and melting of an excessive snow cover. One fatality occurred when a car was swept off a bridge over the Pomperaug River.

Record and near record flooding resulted from the storm of the 13th-15th on the Susquehanna River. At Unadilla, NY, the crest stage of 14.72 feet was the highest in 40 years of record. At Bainbridge, NY, the crest of 22.2 feet was just shy by 0.9 feet of the record stage of 1914. Indications are that flooding at Oneonta, NY, was second only to that of 1960.

Significant flooding also occurred through East Gulf of Mexico Drainage. Total losses estimated at $848,000. In the White River Basin a record peak stage of 28.7 feet was reported at Imboden, AR, on the Spring River. The previous record of 28.42 feet occurred January 24, 1949. One flood-related death was reported from a boating accident. Losses of $2 million were reported in the Poplar Bluff area in Missouri. In the White River Basin, the South Fork of the Little Red River flooded the town of Clinton, AR. Losses were estimated at $130,000. Moderate flooding occurred in the Red River Basin, Ohio River Basin, Missouri River Basin, and upper and lower Mississippi Basins. In the West Gulf of Mexico Drainage losses exceeded $2 million and 6 flood-related deaths occurred. Major damage resulted from the storm of the 20th-27th along the upper Trinity. The crest of 37.83 feet at Dallas was the highest in 25 years.

APRIL

Major flooding with record crest stages occurred in several areas of the country. The most serious of these events was in a four-state area of the southern Appalachians, where record stages were reported on the Cumberland, Guyandot, and Tug Fork Rivers, all tributaries of the Ohio River. Estimates of damages exceed $424 million , and 22 lives were lost. Major flooding occurred in south central and east central Louisiana, where stages were reported on the Amite and Comite Rivers with 2 lives and $48 million damage. Serious flooding also occurred on several streams in the East Gulf of Mexico Drainage with a record crest stage reached at Logan Martin Reservoir on the Coosa River in Northern Georgia. Damages of $7.5 million were estimated and 2 lives lost.

GENERAL SUMMARY OF NATIONAL FLOOD EVENTS

Northern Alabama received rainfall, which totaled 7.65 inches at Birmingham for the period March 28 to April 4. This resulted in widespread urban and small stream flooding followed by extensive lowland flooding along major rivers. The most serious flooding was at Lake Logan Martin on the Coosa River which reached a record high level of 475.31 feet on the 6th. About $2 million damage occurred to private lake front property, and $50,000 damage was sustained by public roads.

Record flooding occurred in the Ohio River Basin early in April. This covered the headwaters of the Kanawha, Guyandot, Big Sandy, Kentucky, Cumberland, and Tennessee tributaries of the Ohio in southern West Virginia, southeastern Kentucky, extreme western Virginia and northeastern Tennessee. The rainfall producing storm built up in the Southern Plains and moved northeastward along a stationary front drawing warm moist air from the Gulf of Mexico. This unstable air, lifted by the Appalachians, resulted in rainfall amounts of 4 to 15.5 inches over the flooded area. The 15 inch center was over northern Buchanan County, VA, on the state line and a 10-inch center was located over western Lee County, VA. Much of this rain fell in three bursts during a period of about 20 hours. The soil had been moistened by several days of light rain assuring that most of the excessive rainfall would run off.

The maximum recorded amount of 15.5 inches occurred at Jolo, WV, in about 30 hours. It is about three times the amount which would be expected for a 100-year recurrence interval storm, and is estimated to have a recurrence interval of more than 1,000 years.

In West Virginia record flooding occurred all along the Tug Fork River with crests exceeding previous records by 8 to 10 feet. Records at Kermit go back to 1875. Small towns such as Matewan, Thacker, and Lobata were virtually washed away. At Williamson the crest of 52.56 feet exceeded flood stage by more than 15 feet and overtopped the flood wall set at 44.5 feet by 8 feet. Many homes and businesses had water on the second story.

In southeastern Kentucky crest stages set modern records on the upper Cumberland River from Harlan down to Williamsburg and ranged from 14 to 23 feet over flood stage.

In Virginia, the United States Geological Survey reported record stages on a number of small streams in the headwaters of the Tennessee and Big Sandy Rivers, including the Clinch, Powell and Holston Rivers. Crests exceeded previous floods of record by up to 11 feet with known floods dating back to 1862 in some cases.

Record flooding was also reported on smaller streams in northeastern Tennessee.

Minor to moderate flooding was widespread through the St. Lawrence Drainage, Atlantic Slope Drainage, upper and lower Mississippi Basin, Missouri River Basin, White Basin, Arkansas Basin, Red Basin, and West Gulf of Mexico Basin.

MAY

The most serious flooding occurred in western Oklahoma where widespread flash and small stream flooding caused losses exceeding $12 million and 2 deaths. A record stage occurred on the North Fork of the Red River at Carter, OK. Widespread flash flooding also occurred in central Nebraska and southern Kansas.

During the period of the 16th-23d numerous reports of 6 to 8 inch rainfalls in 3 hours or less were received from communities along a 100-mile wide path for southwestern Oklahoma into south central Kansas. Severe flooding occurred on numerous small streams in seven counties.

The highest crest stage since 1973 occurred on the Lumber River in North Carolina with significant damage. In Alaska the ice went out with serious flooding along the Yukon and Kuskokwim Rivers and minor flooding on several other streams. Minor flooding continued from April on several West Gulf Drainage streams. Minor to moderate flooding was reported in the upper Mississippi Basin, Missouri River Basin, White Basin, Arkansas-Red River Basin, and Great Basin.

JUNE

Major river flooding occurred in Kansas affecting tributaries of the Missouri, and streams in the Arkansas River Basin. Losses in the lower Kansas - Marias des Cygnes Basins totaled nearly $3 million with one life lost and this flooding extended downstream into the Osage Basin in Missouri. Losses in the Arkansas River Basin in Kansas were in the neighborhood of $3.5 million.

Minor to moderate flooding occurred on the upper Mississippi Basin, Ohio River Basin, West Gulf of Mexico Drainage, and Alaska.

JULY

The major flood event of the year was the catastrophic flash flooding in the Johnstown, PA area, which cost at least 76 lives and did more than $330 million damage. Cataclysmic flash flooding struck a seven county area of southwest Pennsylvania on the 19th-20th, with the city of Johnstown bearing the brunt of the losses. Counties affected were: Blair, Cambria, Clearfield, Indiana, Jefferson, Somerset, and

Westmoreland. Johnstown is located at the lower end of a 20-mile long valley where Stoney Creek and the Little Conemaugh River join to form the Conemaugh River. This basin was subjected to almost continuous rain for about 9 hours. Preliminary data indicated the intensity of the rain ranged up to 1.8 inches per hour for two to three periods; but 2.2 inches fell on a portion of Johnstown in 40 minutes. The maximum storm rainfall of 12 inches was centered to the north and east of downtown Johnstown and included the Laurel Run drainage. The failure of a water supply dam on Laurel Run was directly responsible for at least 13 deaths and the area downstream from the dam was totally demolished by the resulting "wall of water." A survey by the Corps of Engineers showed that of the 66 small dams in the affected area, 6 failed completely and 4 others partially failed, contributing substantially to the destruction.

Numerous urban and flash flood events occurred in other sections of the country, some of which caused significant losses. One death also reported.

AUGUST

Several severe flash flood events occurred. The most serious was in the Imperial Valley of California and resulted from rainfall associated with hurricane "Doreen." Losses exceeded $17 million and 2 deaths. Record-breaking rainfall averaged 3 inches for the 15th-19th over the area with higher elevation points receiving 7 to 8 inches. Highlights of the flooding include: a break in the Highline Canal in the northeast section of Imperial County caused substantial road, crop, and property damage, and deluged the town of Niland. The Imperial Irrigation Network of Canals and Ditches was damaged in a number of places.

Urban and flash flooding occurred in the Minneapolis-St. Paul metropolitan area which caused losses of $6 million, and serious flash flooding also struck the Tug Fork and Guyandot River Basin in West Virginia. Widespread flash flooding occurred in Arizona and New Mexico. One death was reported.

SEPTEMBER

Flash flooding again dominated the flood scene over the country. Ranking number one was the disastrous flooding in the Kansas City Metropolitan area which took 25 lives and an estimated $90 million damage. Devastating flash and urban flooding resulted from two separate 6-hour rain events occurring within a 36-hour period on the 12th-13th. Amounts of 6 to 7 inches fell in a 6-hour period with each storm. The recurrence intervals of amounts such as these would be more than 100 years in either case. Totals ranged up to over 16 inches for the 36-hour period. These storms were unique not only in their amounts of rainfall but in that they occurred over the same small area and there was significance in the "cause" of the two events. Widespread river and flash flooding occurred in northeastern Minnesota, Greenville County, SC, and the lower Missouri Basin.

Severe urban flooding was reported in Philadelphia. Amounts of 4 inches in a short time were unofficially reported. Two drownings reported when victims were swept under by fast moving water at intersections.

Minor to moderate river flooding occurred in several areas including the upper Susquehanna and Ohio River Basins, southeast Iowa, and Illinois, the White and Arkansas Basins, southeast Louisiana, and the Kenai Peninsula in Alaska.

OCTOBER

Several significant flood events occurred during October. In the Ohio River Basin losses along the Wabash River were estimated at $5.5 million and widespread small stream and flash flooding occurred in the headwaters of the Tennessee, Cumberland, and Kentucky Rivers.

A violent rainstorm struck the Wabash Basin the evening of September 30 and early on October 1. Rainfall amounts in a band from Danville, IL, to Brookville, IN, ranged from 3 to over 6 inches. Severe flooding occurred in the middle reach of the Wabash with the stage at Montezuma, IN, rising 11 feet in 24 hours. The crest at Montezuma was 7 feet above flood stage.

Record flooding was reported on the Santa Cruz River and major flooding on the San Pedro River in southern Arizona with losses estimated at more than $13 million. Dissipating hurricane Heather caused several days of rain over the headwaters of these streams October 6th-10th, with the heaviest amounts on the 9th. Rainfall amounts for the five day period totaled as high as 12.5 inches and 6 to 10 inches were common.

Severe flash flooding occurred in the Virgin Islands at St. Croix and the eastern portion of Puerto Rico. Flood losses of $2 million and 3 deaths reported.

Scattered minor flooding occurred in Maine and New England, East Gulf of Mexico Drainage, the upper Mississippi Basin in Iowa and Illinois, South Texas, the Cache River in Arkansas, and the Big Black in Mississippi. Severe urban and flash flooding was reported in Stanley County, NC, and in Oakdale, LA. Moderate flooding occurred in the lower Missouri Basin.

NOVEMBER

A major storm system the first week of November deposited heavy amounts of rainfall over several areas of the eastern part of the United States and was responsible for serious flooding during the month which reached record levels at some points.

In New Jersey record flooding developed from the storm of the 7th-8th which deposited amounts of up to nearly 10 inches in 36 hours over the northern portion of the State. On the Ramapo River the highest stage in 75 years of record was reported at Mahwal (4.4 feet over flood stage). On the Saddle River at Lodi the highest stage in 55 years of record was recorded (7.4 feet over flood stage). The old records were exceeded by 1 foot or more in each case. Losses were estimated at nearly $96 million.

Serious flooding also reported in southern New York. Rainfall amounts of over 6 inches over the Catskills resulted in the second highest stage of record on Schoharie Creek at Middleburg, more than 4 feet over flood stage.

In South Carolina rainfall amounted to as much as 6 to 7 inches on the 5th-6th over some headwater areas, losses estimated at $19,000 with one life lost. Savings realized from flood warnings totaled $150,000 in South Carolina during November.

Extensive small stream and flash flooding occurred in northern Georgia in early November. Rainfall amounts during November 2d-6th ranged from 5 to 7 inches with the heaviest amounts the night of the 5th. The failure of the rain-weakened Kelly-Barnes Dam near Toccoa, GA, highlighted the flooding. About two minutes after the dam failure the campus of the Taccoa Falls Bible College was inundated, drowning 39 persons, injuring 45 and causing $1,450,000 in property damage. Totaled damage during the event in northern Georgia was estimated just over $2.5 million.

Major river and flash flooding occurred in the headwater areas of the Kanawha, Big Sandy, Cumberland, Kentucky, and Tennessee Rivers in western North Carolina, Virginia, southern West Virginia, southeastern Kentucky, and eastern Tennessee on the 6th-7th. Rainfall was heaviest in western North Carolina with Boone reporting 13 inches for the period and a 24-hour total of 7.86 inches, a new record. Most of the headwater area in North Carolina received at least 6 inches from the storm, except somewhat smaller amounts reported in adjacent states. Losses exceeding $53 million and 11 persons drowned during the event.

Scattered minor to moderate flooding reported in New England small streams, Gulf of Mexico Drainage, the lower Missouri River Basin, on the Illinois and Mississippi Rivers in Illinois and Missouri, the Neosho River, and the Big Black River in Mississippi.

The drought finally ended on the Pacific Coast, with some flooding on Oregon and Washington coastal streams. The passage of three storm fronts across Oregon between the 22d and 26th began with snow but soon turned to heavy rain and snowmelt runoff, particularly in western Oregon where 17 tributaries and streams experienced their most significant flood stages since the major flooding of December 1975. The 5-day storm period furnished precipitation totaling 6 to 9 inches with wettest totals of 10.0 inches at Cave Junction, 13.3 inchest at Valsetz, near 14 inches at Illahe, and 14.6 inches at Port Orford. Flooding and storm damage was also present in coastal and southwestern Oregon river basins. Total damage from flooding and heavy rainfall during November was estimated at over $3 million from the information provided by the Corps of Engineers and one death was attributed to high water.

Extensive flooding was reported in Puerto Rico. A cold front which had moved off the eastern coast of the mainland U.S. became stationary over the northern portions of the Greater Antilles and particularly over the northeastern portion of Puerto Rico during the 22d-25th. During this period, rainfall was sporadic with long periods of light to moderate rains interspersed with high intensity showers and thundershowers. Serious flooding occurred on the 24th when very heavy rains fell on saturated watersheds with intensities about one inch per hour over a three to four hour period. Losses were estimated at just over $25 million and 3 deaths.

DECEMBER

The most serious flooding for the month occurred in western Washington and Oregon with record stages on some streams. Losses were estimated at nearly $53.5 million with six related deaths.

As the heavy rains and flooding conditions of late November continued well into December. Rain was reported almost daily across western sections of both States while most eastern stations received their wettest conditions at mid-month. December streamflow was excessive with some severe flooding mostly over western river basins. Record stages were reported by the United States Geological Survey on the Visqually and Washougal Rivers and on streams in the Cowlitz Basin. Precipitation of twice the monthly normal and moderate snowmelt in the northeastern mountains of Oregon produced streamflow up four times the average volume for the Grande Ronde River at La Grande.

Heavy rains over Washington and northern Oregon coastal basins on the 2d and 3d pushed streams promptly over floodstage. Amounts of over 7 inches were reported in 24 hours and 2 to 5 inches were common over western Washington. Rains totaling over 4 inches fell in Tillamook County on the 2d with up to 5.65 inches at Valsetz and the greatest of 7.72 inches at Nehalem 9 NE. One death was attributed to flooding to Tillamook County.

The passage of 4 of the 12 storm fronts across Oregon in December occurred during the very wet period for the 11th through the 16th. Storms totals of precipitation for 6-day wet period ranged 4 to 7 inches for the lower elevation stations in the Willamette Valley, southwestern valleys, southern Cascades, and south and central coastal Plains and a few locations in the north central counties. Numerous stations reported 8 to 12 inches of rain in the northern Cascades and along the coastal range with over 15 inches at Tillamook 13 ENE, 16.32 at Nehalem 9 NE, and 16.64 inches at Valsetz. The wettest 3-day period was the 13th through the 15th with many 5 to 8 inch totals and up to 9.17 inches reported at Illahe, 10.06 at Nehalem, 10.53 inches at Valsetz, and 13.30 inches at Tillamook 13 ENE. The well saturated soils of western Oregon began producing runoff immediately on the 11th as rivers began rising steadily. Most western Oregon streams and tributaries exceeded their flood stages by 2 to 5 feet. Major flooding on the Luckiamute, Yanbill, Tualaten, and Nehalem Rivers and Johnson Creek provided highest crest since the flooding of January 1974 and 1972. Total losses from the two major periods of heavy rainfall and resulting high runoffs and flooding was estimated at nearly $13.5 million for Oregon.

Significant flooding reported in Louisiana and in the Great Lakes drainage in Ohio. Moderate flooding occurred in western Oregon, New Jersey and Mississippi. Minor flooding caused by ice jams in northern portions of the country was reported from several areas.

LATE REPORTS

GENERAL SUMMARY OF FLOOD LOSSES FOR 1975

Raymond J. Haley
Office of Hydrology, National Weather Service

Flooding in the United States and Puerto Rico during 1975 caused monetary losses estimated at $1,373,269,000. This is more than twice the 1974 estimated losses of $629,617,000, and is nearly 30% higher than the 24-year (1951-1974) average annual flood loss figure of $970,186,000 (both figures adjusted to the 1975 price index). Losses during 1975 were exceeded in only six years since 1951.

Three notable flood events during the year accounted for about two-thirds of the total losses for the year. These were the spring flood in the Mississippi Basin; the unusually severe summer flood in the Red River of the North Basin; and the flooding caused by Hurricane "Eloise" rains in Puerto Rico and the northeastern United States in September.

There were 107 flood-related fatalities during 1975. This is 14 fewer than in 1974, but seven more than the annual national average (94) for the 50-year period, 1925 to 1974. The "Eloise" flooding accounted for 47 deaths, 35 of which occurred in Puerto Rico.

LATE REPORTS

ANNUAL FLOOD LOSSES FOR UNITED STATES

Annual Flood Losses and Savings for years 1933 to 1947, inclusive, have been published in the Monthly Weather Review as follows:

Year	Issue	Pages
1933	Vol. 62, No. 1, Jan. 1934	25-27
1934	Vol. 62, No. 12, Dec. 1934	465-467
1935	Vol. 63, No. 12, Dec. 1935	362-365
1936	Vol. 65, No. 1, Jan. 1937	28-31
1937	Vol. 66, No. 12, Dec. 1938	426-430
1938	Vol. 68, No. 9, Sept. 1940	262-263
1939	Vol. 68, No. 11, Nov. 1940	329-330
1940	Vol. 69, No. 7, July 1941	217-218
1941	Vol. 71, No. 11, Nov. 1943	185-186
1942 & 1943	Vol. 73, No. 8, Aug. 1945	137-139
1944 & 1945	Vol. 76, No. 6, June 1948	113-116
1946	Vol. 76, No. 9, Sept. 1948	208-210
1947	Vol. 77, No. 9, Sept. 1949	262-265

Annual flood loss data for the year 1948 and for subsequent years are published in Climatological Data, National Summary as follows:

Year	Issue	Year	Issue
1948	August 1950	1962	Annual 1963
1949	Annual 1950	1963	Annual 1964
1950 & 1951	Annual 1951	1964	Annual 1965
1952	Annual 1952	1965	Annual 1966
1953	Annual 1953	1966	Annual 1967
1954	Annual 1955	1967	Annual 1968
1955	Annual 1956	1968	Annual 1969
1956	Annual 1957	1969	Annual 1970
1957	Annual 1958	1970	Annual 1971
1958	Annual 1959	1971	Annual 1972
1959	Annual 1960	1972 & 1973	Annual 1975
1960	Annual 1961	1974	Annual 1976
1961	Annual 1962	1975	Annual 1977

Prior to 1933 Flood Losses and Savings were published monthly, as a rule, in the Monthly Weather Review.

LATE REPORTS
ESTIMATED FLOOD LOSSES FOR 1975

In Thousands of Dollars

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous *	Unclassified	Total Loss **	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
HUDSON BAY DRAINAGE																
Wild Rice River & Antelope Cr.(N.Dak.)	......	......	......	......	......	9,636	......	5,894	......	......	644	......	......	......	16,174	...
Sheyenne, Rush & Maple Rivers (N.Dak.)	2,617	......	......	......	......	51,411	......	60,532	......	......	2,059	......	......	......	116,619	...
Buffalo River (Minn.)	589	......	......	......	......	13,375	......	12,722	......	......	345	......	......	......	27,081	...
Wild Rose River (Minn.)	58	......	......	......	......	22,407	......	13,378	......	......	1,212	......	......	......	37,055	...
Sand Hill River	31	......	......	......	......	2,250	......	600	......	......	45	......	......	......	2,926	...
Red Lake River & tribs. (Minn.)	44	......	......	......	......	4,364	......	2,314	......	......	124	......	......	......	6,846	...
Middle River (N. Dak.)	4	......	......	......	......	4,192	......	3,489	......	......	57	......	......	......	7,742	...
Park River (N. Dak.)	......	......	......	......	......	420	......	280	......	......	......	......	......	......	700	...
Snake River (N. Dak.)	80	......	......	......	......	2,530	......	1,323	......	......	53	......	......	......	3,986	...
Two Rivers River (Minn.)	......	......	......	......	......	3,752	......	2,278	......	......	33	......	......	......	6,063	...
Roseau River (Minn.)	......	......	......	......	......	16,637	......	8,774	......	......	267	......	......	......	25,678	...
Souris River & tribs. (N.Dak.)	3,064	......	......	......	......	1,788	......	270	......	......	262	......	......	......	5,384	...
Red River of the North (Minn.-N.Dak.)	4,956	......	......	......	......	20,096	......	6,864	......	......	2,863	......	......	......	34,779	...
Total	A 11,443	......	......	......	......	152,858	......	B 118,768	......	......	7,964	......	......	......	291,033	...
ST. LAWRENCE DRAINAGE																
Lake Michigan																
Flash Flooding in Newaygo County, Mich.	......	......	......	......	......	......	......	......	......	......	......	......	......	5,900	5,900	...
Grand Kalamazoo, St. Joseph and other basins south of Grand River basin, Mich.	......	......	......	......	6,234	......	......	......	......	......	......	......	......	27,992	34,226	3
Total	......	......	......	......	6,234	......	......	......	......	......	......	......	......	33,892	40,126	3
Lakes Huron & St. Clair																
Rivers in St. Clair, Oakland, McComb, Crawford, LaPeer, Genesee & Shiawassee Counties, Mich.	......	......	......	......	2,769	......	......	......	......	......	......	......	......	11,463	14,232	1
Total	......	......	......	......	2,769	......	......	......	......	......	......	......	......	11,463	14,232	1
Lake Erie																
Flash Flooding in Cleveland, Ohio area	5,000	......	......	......	......	......	......	......	......	......	......	......	......	......	5,000	2
Cayuga & Scajaquada Creeks (N.Y.)	3,150	......	......	......	......	......	......	......	......	......	......	......	......	1,500	4,650	...
Streams in Finger Lake Region (N.Y.)	......	......	......	......	......	......	......	......	......	......	192	......	......	822	1,014	...
Total	A 8,150	......	......	......	......	......	......	......	......	......	192	......	......	2,322	10,664	2
ATLANTIC SLOPE DRAINAGE																
South Branch Williams River (Vt.)	......	......	......	......	......	......	......	......	......	......	......	......	......	200	200	...
Flash Flooding on Connecticut Rivers	A 8,843	......	......	......	......	240	......	......	......	......	277	......	......	......	9,360	2
Assunpink & other streams in Mercer County, N.J.	A 25,000	......	......	......	......	......	......	......	......	......	......	......	......	......	25,000	...
Raritan & Passaic Basins & other drainages in central & northern New Jersey	C 4,960	......	D 9,494	......	1,233	20,000	......	......	......	......	......	......	......	......	35,687	6
Flash Flooding in eastern Pennsylvania	......	......	......	......	......	......	......	......	......	......	......	......	......	29,000	29,000	2
Susquehanna & tribs. in New York	CD 13,100	......	......	......	17,800	E 23,500	......	......	......	......	......	......	......	......	54,400	3
Susquehanna & tribs. in Pennsylvania	......	......	......	......	......	......	......	......	......	......	18,400	......	......	223,200	241,600	4
Small streams in Baltimore & Washington Metropolitan Area	A 27,000	......	......	......	......	......	......	......	......	......	......	......	......	......	27,000	...
Flash Flooding in July in Md. & Del.	......	......	......	......	......	......	......	......	......	......	......	......	......	200	200	3
Four Mile Run, Arlington, Va.	A 11,900	......	......	......	......	......	......	......	......	......	......	......	......	......	11,900	...
James Basin (Va.)	......	......	......	......	......	......	......	......	......	......	106	......	......	1,034	1,140	2
Nottoway & Meherrin Rivers (Va.)	......	......	......	......	......	......	......	......	......	......	......	......	......	5,000	5,000	3
Eastern North Carolina Rivers	......	......	......	......	......	......	......	......	......	......	......	......	......	5,000	5,000	...
Flash Flooding in Charlotte, N.C. area	C 156	......	D 2,695	......	......	......	......	......	......	......	......	......	......	......	2,851	...
Pee Dee Basin (S.C.-N.C.)	7	......	......	......	......	123	......	......	......	......	......	......	......	138	268	...
Broad & Saluda Basins (S.C.-N.C.)	......	......	530	......	......	......	......	5	......	......	......	......	......	346	881	1
Congaree, Catawba, Wateree & Santee Rivers (S.C.)	A 140	......	......	......	......	28	......	......	211	......	......	......	......	30	409	...
Savannah River (Ga.)	......	......	......	......	......	B 160	......	......	......	......	......	......	......	......	160	...
Altamaha & tribs. (Ga.)	......	......	......	......	......	B 81	......	......	......	......	......	......	......	......	81	...
Total	91,106	......	12,719	......	19,033	44,132	......	5	211	......	18,783	......	......	264,148	450,137	26
EAST GULF OF MEXICO DRAINAGE																
Flint River (Ga.)	A 170	......	......	......	......	124	......	......	......	......	21	....	....	....	315	...
Chattahoochee River & tribs. (Ga.)	1,446	80	D 40	......	476	286	......	......	......	......	......	......	80	......	2,408	...
Apalachicola River & tribs. (Fla.)	580	......	......	......	......	2,143	......	......	......	......	538	......	......	......	3,261	...
Choctawhatchee & tribs. (Ala.-Fla.)	A 3,562	......	......	......	......	B 6,700	......	......	......	......	1,279	......	......	......	11,541	...
Yellow, Blackwater & other drainages in Oskaloosa County, Fla.	A 281	......	......	......	......	2,327	......	......	260	......	1,218	44	......	......	4,130	...
Conecuh, Escambia & tribs.(Ala.-Fla.)	A 4,479	......	......	......	......	4,351	......	......	900	......	1,898	15	......	......	11,643	4
Alabama River & tribs. (Ala.-Ga.)	A 239	......	......	......	......	B 764	......	......	......	......	164	......	......	......	1,167	...

See reference notes at end of table.

LATE REPORTS
ESTIMATED FLOOD LOSSES FOR 1975

In Thousands of Dollars

River and drainage	Urban Property: Residential: Fixed	Urban Property: Residential: Movable	Urban Property: Commercial: Fixed	Urban Property: Commercial: Movable	Urban Property: Public	Rural Property: Crops: Growing	Rural Property: Crops: Stored	Rural Property: Livestock	Rural Property: Other: Fixed	Rural Property: Other: Movable	Other Property: RR's, bridges, highways, etc.	Other Property: Public utilities	Miscellaneous *	Unclassified	Total loss **	Lives lost
EAST GULF OF MEXICO DRAINAGE--Cont.																
Tombigbee River & tribs. (Ala.-Miss.)	A 1,811	......	......	......	......	5,372	......	......	......	......	471	......	5	......	7,659	...
Pascagoula River (Miss.)	A 16	......	......	......	......	5	......	......	......	......	......	......	......	......	21	...
Flash flooding in central & south Mississippi	......	......	......	......	......	......	......	......	......	......	......	......	......	50	50	1
Pearl River (Miss.)	A 77	......	......	......	......	B 1,149	......	......	......	......	505	......	......	......	1,731	2
Total	12,661	80	40	......	476	23,221	......	......	1,160	......	6,094	59	85	50	43,926	7
MISSISSIPPI SYSTEM																
Upper Mississippi Basin																
Miscellaneous drainages in northern Minnesota	......	......	......	......	......	1,720	......	281	......	......	154	......	......	......	2,155	...
Flash flooding in Buffalo, Pepin, Pierce, Trempealeau & Jackson Counties, Wisconsin	500	......	......	......	......	......	......	......	......	......	50	......	......	1,450	2,000	...
Whitewater River (Minn.)	......	......	......	......	......	......	......	......	......	......	......	......	......	169	169	...
Pecatonica-Rock Basin (Ill.)	......	......	......	......	......	......	......	......	......	......	......	......	......	10,000	10,000	...
Flash flooding in Des Moines, Ia. area	......	......	......	......	......	......	......	......	......	......	......	......	......	1,000	1,000	...
Squaw Creek & South Skunk River Basins	1,000	......	......	......	......	4,000	......	......	B 250	......	......	......	......	......	5,250	1
Mississippi River main stem (including backwater areas from Clarksville to Cape Girardeau, Mo.)	2,334	......	......	......	......	6,017	......	......	B 3,855	......	859	......	......	1,185	14,250	.
Total	A 3,834	......	......	......	......	11,737	......	B 281	B 4,105	......	1,063	......	......	14,104	35,124	1
Missouri Basin																
Sun River (Mont.)	......	......	......	......	......	......	......	......	......	......	......	......	......	17,000	17,000	...
Yellowstone River (Mont.)	......	......	......	......	......	100	......	......	......	......	......	......	......	......	100	..
Other Montana tribs.	......	......	......	......	......	......	......	......	......	......	......	......	......	4,000	4,000	...
Sappa & Prairie Dog Creeks (Kans.)	525	......	......	......	75	180	......	2	12	13	65	......	6	......	878	2
Big & Little Soldier Creeks (Kans.)	......	......	......	......	40	50	......	......	......	......	......	......	......	......	90	...
Rush Creek (N.M.)	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
Flash flooding in Cole & Callaway Counties (Mo.)	A 100	......	......	......	......	......	......	......	......	......	......	......	......	......	100	...
Marais des Cygnes River (Kans.)	......	......	......	......	......	400	......	......	5	20	......	......	......	......	425	..
Total	625	......	......	......	115	730	......	2	17	33	65	......	6	21,000	22,593	3
Ohio Basin																
Tygart River (W.Va.)	......	......	......	......	......	......	......	......	......	......	......	......	......	424	424	..
Flash flooding in northern panhandle of W.Va.	......	......	......	......	......	......	......	......	......	......	......	......	......	1,000	1,000	2
Flash flooding in Belmont & Jefferson Counties, Ohio	A 3,000	......	......	......	......	......	......	......	......	......	2,000	......	......	......	5,000	...
Muskingum Basin (Ohio)	......	......	......	......	......	......	......	......	......	......	......	......	......	2,700	2,700	...
Hocking River (Ohio)	......	......	......	......	......	......	......	......	......	......	......	......	......	715	715	...
Flash flooding in Wyoming County, W.Va.	......	......	......	......	......	......	......	......	......	......	......	......	......	16	16	..
Meadow River near Rupert, W.Va.	......	......	......	......	......	......	......	......	......	......	......	......	......	4	4	1
Tug Fork Basin (W.Va.)	......	......	......	......	......	......	......	......	......	......	......	......	......	477	477	..
Flash flooding in Levisa Fork basin in Kentucky & Virginia	A 300	......	......	......	......	50	......	......	......	......	......	......	......	1,100	1,450	2
Big Sandy River (Ky.)	......	......	......	......	......	......	......	......	......	......	......	......	......	112	112	...
Scioto Basin (Ohio)	......	......	......	......	......	......	......	......	......	......	......	......	......	2,100	2,100	...
Licking River Basin (Ohio)	......	......	......	......	......	50	......	......	......	......	......	......	......	100	150	1
Green, Barren & Rough Rivers (Ky.)	......	......	......	......	......	B 1,869	......	......	......	......	......	......	......	......	1,869	..
Flash flooding on small streams in northeast, central & eastern Ky.	......	......	......	......	......	50	......	......	......	......	50	......	......	......	100	...
Wabash River & tribs. (Ind., Ill.)	......	......	......	......	......	B 10,681	......	......	......	......	......	......	......	......	10,681	2
Cumberland & Tennessee Basins (Ky.-Tenn.-Va.)	A 150	......	......	......	......	3,000	......	......	B 7,000	......	......	......	......	20,000	30,150	6
Ohio River (Ind.-Ky.)	......	......	......	......	......	B 5,124	......	......	......	......	......	......	......	......	5,124	..
Total	3,450	......	......	......	......	21,124	......	......	7,000	......	2,050	......	......	28,748	62,362	14
Arkansas-White Basin																
White River & tribs. (Ark.)	495	88	10	10	972	884	......	29	134	15	......	1	20	......	2,658	..
Tribs. of Arkansas River in Kansas	......	......	......	......	......	......	......	......	......	......	225	......	1,050	543	1,818	..
Pryor Creek (Tulsa, Okla.)	A 300	......	......	......	......	......	......	......	......	......	......	......	......	......	300	.
Mulberry River (Ark.)	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
Arkansas River (Ark.)	......	......	......	......	2	239	......	......	B 7	......	12	......	6	......	266	
Total	795	88	10	10	974	1,123	......	29	141	15	237	1	1,076	543	5,042	1

See reference notes at end of table.

LATE REPORTS
ESTIMATED FLOOD LOSSES FOR 1975

In Thousands of Dollars

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous *	Unclassified	Total Loss **	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
Red Basin																
Ouachita & tribs. (Ark.-La.)	C 785	......	D 118	......	2,655	35,843	......	554	B 9,833	......	1,306	......	1,394	115	52,603	...
Red River (Ark.-La.)	......	......	......	......	......	B 20,000	......	......	......	......	......	......	......	......	20,000	...
Total	785	......	118	......	2,655	55,843	......	554	9,833	......	1,306	......	1,394	115	72,603	...
Lower Mississippi-Atchafalaya Basin																
Forked Deer Basin (Tenn.)	......	......	......	......	......	......	......	......	......	......	......	......	......	50	50	...
Obion Basin (Tenn.)	......	......	......	......	......	......	......	......	......	......	......	......	......	2,500	2,500	...
Yazoo Basin (Miss.)	C 47	......	D 605	......	33	48,634	......	212	B 3,124	......	336	......	1,588	1,419	55,998	...
Big Black Basin & Southwest Tribs. (Miss.)	C 437	......	D 404	......	11	706	......	35	B 735	......	210	......	774	329	3,641	...
Mississippi River below Cape Girardeau, Mo.	C 94	......	D 2,387	......	42	5,356	......	259	B 4,681	......	312	......	14,969	908	29,008	...
Atchafalaya River (La.)	10	......	D 8,797	......	......	270	......	......	60	......	......	......	5,844	......	14,981	...
Total	588	......	12,193	......	86	54,966	......	506	8,600	......	858	......	23,175	5,206	106,178	...
WEST GULF OF MEXICO DRAINAGE																
Flash Flood at Nacogdoches, Tex.	C 3,000	......	......	......	......	......	......	......	......	......	......	......	......	3,000	6,000	4
Angelina Basin (Tex.)	2,500	500	500	......	1,000	50	10	50	1,000	50	50	40	10	......	5,760	4
Pine Island Bayou (Sour Lake, Tex.)	A 4,500	......	......	......	......	175	......	......	......	......	......	......	......	5,325	10,000	2
Trinity Basin (Tex.)	156	8	......	......	......	130	......	13	......	......	19	......	......	......	326	...
Sims Bayou (Houston, Tex. area)	A 1,000	......	......	......	......	......	......	......	......	......	......	......	......	......	1,000	...
Total	11,156	508	500	......	1,000	355	10	63	1,000	50	69	40	10	8,325	23,086	10
GREAT BASIN																
Ogden River, Emigration Creek & miscellaneous small streams (Utah)	10	......	......	......	......	......	......	......	......	......	......	......	127	75	212	...
Flash Flood in Las Vegas, Nev. area	A 6,000	......	......	......	......	......	......	......	......	......	......	......	......	......	6,000	3
Flash Flood in Metropolis, Nev.	......	......	......	......	......	......	......	......	......	......	......	......	......	50	50	...
Flash Flooding in southern California closed drainages	......	......	......	......	......	......	......	......	......	......	......	......	......	5	5	1
Total	6,010	......	......	......	......	......	......	......	......	......	......	......	127	130	6,267	4
GULF OF CALIFORNIA DRAINAGE																
Colorado Basin																
Puerco River at Gallup, N.Mex.	C 48	......	D 368	......	12	B 6	......	......	......	......	26	6	111	......	577	...
Flash Flooding in Greenlee & Graham Counties, Ariz.	CD 275	......	......	......	92	......	......	......	......	......	......	......	......	......	367	...
Flash Flooding in Havasupai & Oak Creek Canyons, Ariz.	......	......	......	......	......	......	......	......	......	......	......	......	......	560	560	...
Flash Flood near Caliente, Nev.	......	......	......	......	......	......	......	......	......	......	......	......	......	100	100	...
Virgin River (Nev.)	......	......	......	......	......	......	......	......	......	......	......	......	......	50	50	...
Total	323	......	368	......	104	6	......	......	......	......	26	6	111	710	1,654	...
PACIFIC SLOPE DRAINAGE																
California Coast																
Eel River & other Humboldt County Rivers	......	......	......	......	......	......	......	......	......	......	1,500	......	......	340	1,840	...
Total	......	......	......	......	......	......	......	......	......	......	1,500	......	......	340	1,840	...
Oregon Coast																
Northern Coast Rivers	......	......	......	......	......	......	......	......	......	......	......	......	......	930	930	...
Total	......	......	......	......	......	......	......	......	......	......	......	......	......	930	930	...
Columbia Basin																
Yaak River (Mont.)	......	......	......	......	......	......	......	......	......	......	5	......	......	......	5	...
Flathead River & tribs. (Mont.)	C 147	......	D 116	......	661	B 154	......	......	......	......	1,740	50	......	250	3,118	...
Wenatchee River (Wash.)	......	......	......	......	......	......	......	......	......	......	......	......	......	10	10	...
Yakima River & tribs. (Wash.)	......	......	......	......	......	......	......	......	......	......	......	......	......	3,422	3,422	...
Tributaries of Snake River (Ore.-Ida.)	C 111	......	D 2	......	11	B 891	......	......	497	......	1,781	6	14	3,250	6,583	...
Umatilla & Walla Walla Rivers (Wash.)	......	......	......	......	......	......	......	......	......	......	......	......	......	235	235	...
Willamette River & tribs. (Ore.)	......	......	......	......	......	......	......	......	......	......	......	......	......	1,247	1,247	...
Total	258	......	138	......	672	1,045	......	......	497	......	3,526	56	14	8,414	14,620	...

See reference notes at end of table.

LATE REPORTS
ESTIMATED FLOOD LOSSES FOR 1975

In Thousands of Dollars

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous *	Unclassified	Total Loss **	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
PACIFIC SLOPE DRAINAGE--Cont.																
Washington Coast (including Puget Sound)																
Chehalis Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	3,025	3,025	...
Nisqually Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	262	262	...
Puyallup Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	408	408	...
Green Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	193	193	...
Cedar Basin	......	......	......	......	......	......	......	......	......	......	......	5,000	......	2,350	7,350	...
Snohomish Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	19,060	19,060	...
Stillaguamish Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	1,474	1,474	...
Skagit Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	3,247	3,247	...
Nooksack Basin	......	......	......	......	......	......	......	......	......	......	......	......	......	3,832	3,832	...
Total	......	......	......	......	......	......	......	......	......	......	......	5,000	......	33,851	38,851	
PUERTO RICO																
Flooding due to Hurricane 'Eloise'	......	......	......	......	......	......	......	......	......	......	45,500	......	......	79,500	125,000	35
Total	......	......	......	......	......	......	......	......	......	......	45,500	......	......	79,500	125,000	35
GRAND TOTAL	151,182	676	26,086	10	34,118	367,140	10	120,208	32,564	98	89,233	5,165	25,998	520,781	1 373,269	107

* Estimated losses under this heading usually refer to losses and wages due to suspension of business, and costs of emergency protection, evacuation, rehabilitation and relief. ** Most figures are based on flood damage surveys conducted by the National Weather Service, or are estimates contained in reports of Corps of Engineers, U.S. Army. A. Includes all urban losses. B. Includes other agricultural losses. C. Includes all residential property. D. Includes all commercial property. E. Includes livestock.

LATE REPORTS

LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

Property Losses in Thousands of Dollars
BY DISTRICTS AND YEARS, 1933-1975**

District	1933		1934		1935		1936		1937		1938		1939		1940	
	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property
Great Lakes..........	---	14	---	--------	---	13,185	1	9	---	690	---	240	---	11	2	--------
North Atlantic.......	2	5,418	---	142	52	16,340	24	146,035	---	2,689	8	37,068	2	56	4	2,519
South Atlantic.......	---	19	---	240	---	77	2	2,391	---	989	---	455	---	454	12	5,034
East Gulf............	---	444	---	13	---	719	---	1,240	---	357	---	1,655	1	6,680	---	5,497
Ohi	5	7,725	2	928	5	8,536	82	122,296	65	413,936	8	4,481	80	3,773	28	8,077
Upper Mississippi*...	4	1,157	12	1,023	---	1,506	---	313	3	1,127	2	3,659	---	228	---	199
Lower Mississippi....	---	6,933	---	--------	17	6,631	---	55	72	6,657	---	1	---	1,448	---	--------
Missouri.............	2	1,391	6	1,906	125	38,959	---	109	2	1,367	71	4,333	---	610	5	1,759
Arkansas.............	---	776	---	18	4	8,344	6	817	---	1,557	---	2,202	---	179	2	1,332
Red..................	---	38	22	640	8	2,751	---	16	---	24	---	755	---	22	---	12
West Gulf............	---	1,160	---	422	20	29,522	24	8,376	---	1,830	6	6,003	---	360	7	7,622
Colorado.............	---	--------	1	22	---	--------	---	--------	---	264	---	256	---	13	---	180
Pacific..............	20	11,604	45	5,008	5	557	3	892	---	9,245	85	39,990	---	--------	---	8,236
Total.........	33	36,679	88	10,362	236	127,127	142	282,549	142	440,738	180	101,098	83	13,834	60	40,467

District	1941		1942		1943		1944		1945		1946		1947		1948	
Great Lakes..........	---	--------	---	153	1	9,564	---	130	---	119	---	251	1	5,761	4	20,270
North Atlantic.......	---	--------	35	22,321	4	1	---	--------	3	5,729	14	8,500	---	198	4	12,467
South Atlantic.......	---	89	---	608	---	152	---	1,926	3	1,007	---	172	---	944	1	1,372
East Gulf............	---	24	2	155	---	773	---	2,660	---	268	---	2,963	2	654	---	3,122
Ohio.................	---	1,122	16	16,546	44	31,416	---	806	27	52,887	---	10,914	5	7,812	16	16,871
Upper Mississippi*...	---	3,018	1	5,592	16	42,097	7	27,031	---	9,288	4	8,642	27	87,937	---	2,905
Lower Mississippi....	---	--------	---	475	---	829	---	1,550	---	3,601	---	4,407	1	2,555	---	5,390
Missouri.............	2	12,019	1	22,511	13	62,630	13	44,616	4	34,403	---	8,305	18	163,176	1	31,490
Arkansas.............	9	13,346	---	6,577	26	41,850	10	11,171	20	15,068	---	1,791	1	1,424	14	18,721
Red..................	---	1,835	---	2,205	---	44	---	1,676	6	22,209	---	1,434	---	1,446	---	220
West Gulf............	34	5,458	2	12,489	---	2,589	3	8,938	4	10,987	10	15,967	---	330	1	4,604
Colorado.............	2	1,061	---	3	---	310	---	575	10	182	---	--------	---	3	---	1
Pacific..............	---	1,532	11	8,872	3	7,477	---	--------	14	9,530	---	7,367	---	88	37	111,826
Great Basin..........	---	--------	---	--------	---	--------	---	--------	---	520	---	100	---	--------	---	--------
Total.........	47	39,524	68	98,507	107	199,732	33	101,079	91	165,798	28	70,813	55	272,328	82	229,959

District	1949		1950		1951		1952		1953		1954		1955		1956	
Great Lakes..........	---	1,619	9	33,542	---	131	---	2,350	1	2,654	---	15,000	---	2,596	---	1,327
North Atlantic.......	11	9,273	2	7,149	1	916	5	1,222	1	10,637	11	7,337	211	761,303	11	1,453
South Atlantic.......	3	291	---	1,203	---	9	---	236	---	109	1	546	[illegible]	902	3	2,720
East Gulf............	---	1,747	---	1,435	---	4,310	---	347	2	2,444	---	543	6	5,300	1	1,379
Ohio.................	7	4,754	50	25,195	1	4,889	14	4,940	5	778	9	18,594	15	14,645	12	17,836
Upper Mississippi*...	---	406	2	11,060	6	71,799	7	22,439	2	5,602	4	24,656	---	85	---	388
Lower Mississippi....	---	10,020	6	10,071	---	5,996	---	444	12	7,857	---	490	---	1,352	---	865
Missouri.............	6	33,503	18	35,090	31	889,872	8	181,335	14	44,255	---	11,999	1	2,753	1	6,360
Arkansas.............	---	6,696	---	8,294	10	44,331	---	5	2	2,020	---	296	2	5,362	---	24
Red..................	2	365	1	1,105	---	2,101	---	836	---	2,061	---	923	---	2,003	1	250
West Gulf............	18	22,462	---	417	---	238	10	9,584	1	34,849	29	21,639	2	4,286	3	3,714
Colorado.............	---	155	---	--------	---	889	---	76	---	7	---	1,890	---	2,173	---	--------
Pacific..............	1	2,640	5	37,362	2	3,260	10	20,251	---	8,931	1	2,929	63	186,785	6	27,930
Great Basin..........	---	--------	---	4,127	---	--------	---	9,999	---	--------	---	--------	---	5,946	4	442
Total.........	48	92,931	93	176,050	51	1,028,741	54	254,064	40	122,204	55	106,842	302	995,491	42	64,688

District	1957		1958		1959		1960		1961		1962		1963		1964	
Great Lakes..........	1	1	---	10	---	12,746	2	1,942	1	216	---	--------	1	35,872	---	325
North Atlantic.......	---	11	---	167	---	6,952	2	15,274	---	1,168	---	8	6	1,325	---	11,342
South Atlantic.......	---	166	---	3,917	---	631	---	172	---	600	---	97	---	89	---	16,786
East Gulf............	---	4,526	---	3,434	---	241	---	13,780	3	30,386	---	5,768	---	1,726	---	10,490
Ohio.................	25	135,972	10	68,248	8	82,503	1	7,519	31	33,748	5	30,583	26	98,824	15	94,034
Upper Mississippi*...	8	14,648	---	20,770	8	3,427	2	12,901	4	25,320	1	5,341	---	413	---	--------
Lower Mississippi....	6	15,608	---	11,979	---	199	---	496	---	11,462	---	3,546	---	293	---	1,125
Missouri.............	15	26,057	21	45,819	3	12,162	8	28,105	7	33,990	2	10,501	3	14,705	37	41,902
Arkansas.............	5	50,082	---	360	2	12,886	1	3,480	1	9,173	3	1,254	2	563	1	1,607
Red..................	6	16,037	---	11,768	---	880	---	226	---	1,609	---	581	1	2,361	---	124
West Gulf............	16	73,057	6	18,127	4	2,886	14	8,205	1	2,945	2	1,948	---	640	5	7,178
Colorado.............	---	741	---	240	---	100	---	--------	3	552	---	1,080	---	--------	---	55
Pacific..............	---	23,397	10	33,404	---	5,638	2	876	1	1,825	6	12,198	---	15,305	42	463,959
Great Basin..........	---	--------	---	12	---	4	---	--------	---	1,039	---	2,332	---	3,530	---	2,715
Hawaii...............	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	2,300	---	--------
Total.........	82	360,303	47	218,255	25	141,255	32	92,976	52	154,033	19	75,237	39	177,946	100	651,642

District	1965		1966		1967		1968		1969		1970		1971		1972	
Great Lakes..........	---	20	---	176	1	398	---	100	6	31,364	---	3,100	---	1,000	3	169,106
North Atlantic.......	2	55	1	535	---	3,726	10	211,690	158	131,921	---	918	40	167,918	119	3,762,256
South Atlantic.......	---	268	1	375	---	610	---	--------	---	1,962	2	2,338	---	1,205	1	29,005
East Gulf............	---	2,665	---	6,388	---	2,614	---	1,241	---	4,888	3	14,970	---	7,784	---	45,848
Ohio.................	8	3,591	1	10,193	8	52,000	7	51,947	36	80,459	3	10,158	3	12,263	138	137,158
Upper Mississippi*...	15	182,053	---	14,167	---	3,431	3	3,309	9	120,892	3	22,017	---	1,008	3	23,965
Lower Mississippi....	---	811	---	1,438	---	1,046	---	5,997	1	3,838	1	14,831	---	7,737	---	14,091
Missouri.............	26	451,832	5	16,021	1	100,617	---	8,655	1	77,530	1	22,911	1	7,862	241	182,867
Arkansas.............	16	70,152	---	5,245	---	3,731	4	9,793	4	5,911	3	5,942	4	6,181	3	2,652
Red..................	---	852	2	2,702	---	48	---	17,268	3	1,467	---	94	4	20,566	---	12,994
West Gulf............	33	40,039	14	27,608	12	98.239	6	24,302	10	13,132	8	4,149	20	26,528	31	23,006
Colorado.............	8	12,648	1	4,919	3	3,598	1	509	---	106	33	5,015	---	4,031	9	24,965
Pacific..............	11	18,745	4	15,525	2	5,106	---	1,149	66	426,994	21	50,654	---	12,202	5	36,116
Great Basin..........	---	4,315	---	11,712	---	475	---	939	---	190	---	356	---	1,860	1	81
Alaska...............	---	--------	---	-------	---	98,550	---	--------	---	--------	---	--------	---	--------	---	1,025
Hawaii...............	---	--------	---	-------	---	1,029	---	2,500	---	--------	---	--------	---	--------	---	--------
Puerto Rico & Vir.Is.	---	--------	---	-------	---	--------	---	--------	3	3,200	57	68,000	---	--------	---	--------
Total.........	119	783,046	29	117,004	27	375,218	31	339,399	297	902,654	135	225,453	72	278,145	554	4,465,135

District	1973		1974		1975	
Great Lakes..........	---	16,939	---	240	6	65,022
North Atlantic.......	36	144,213	1	3,005	22	435,487
South Atlantic.......	5	22,552	---	1,206	4	14,650
East Gulf............	1	11,503	9	46,874	7	43,926
Ohio.................	28	112,088	4	44,852	14	69,362
Upper Mississippi*...	1	355,544	3	157,192	1	326,157
Lower Mississippi....	29	553,732	---	20,575	---	106,178
Missouri.............	4	300,418	13	54,946	3	22,593
Arkansas.............	10	101,065	15	30,791	1	5,043
Red..................	1	115,900	8	7,068	---	72,603
West Gulf............	29	143,352	27	41,374	10	23,086
Colorado.............	---	1,433	12	3,605	---	1,654
Pacific..............	4	12,179	14	150,606	---	56,241
Great Basin..........	---	2,075	---	-------	4	6,267
Alaska...............	---	1,500	---	-------	---	-------
Hawaii...............	----	--------	5	3,869	---	-------
Puerto Rico & Vir.Is.	---	--------	10	10,000	35	125,000
Total.........	148	1,894,493	121	576,203	107	1,373,269

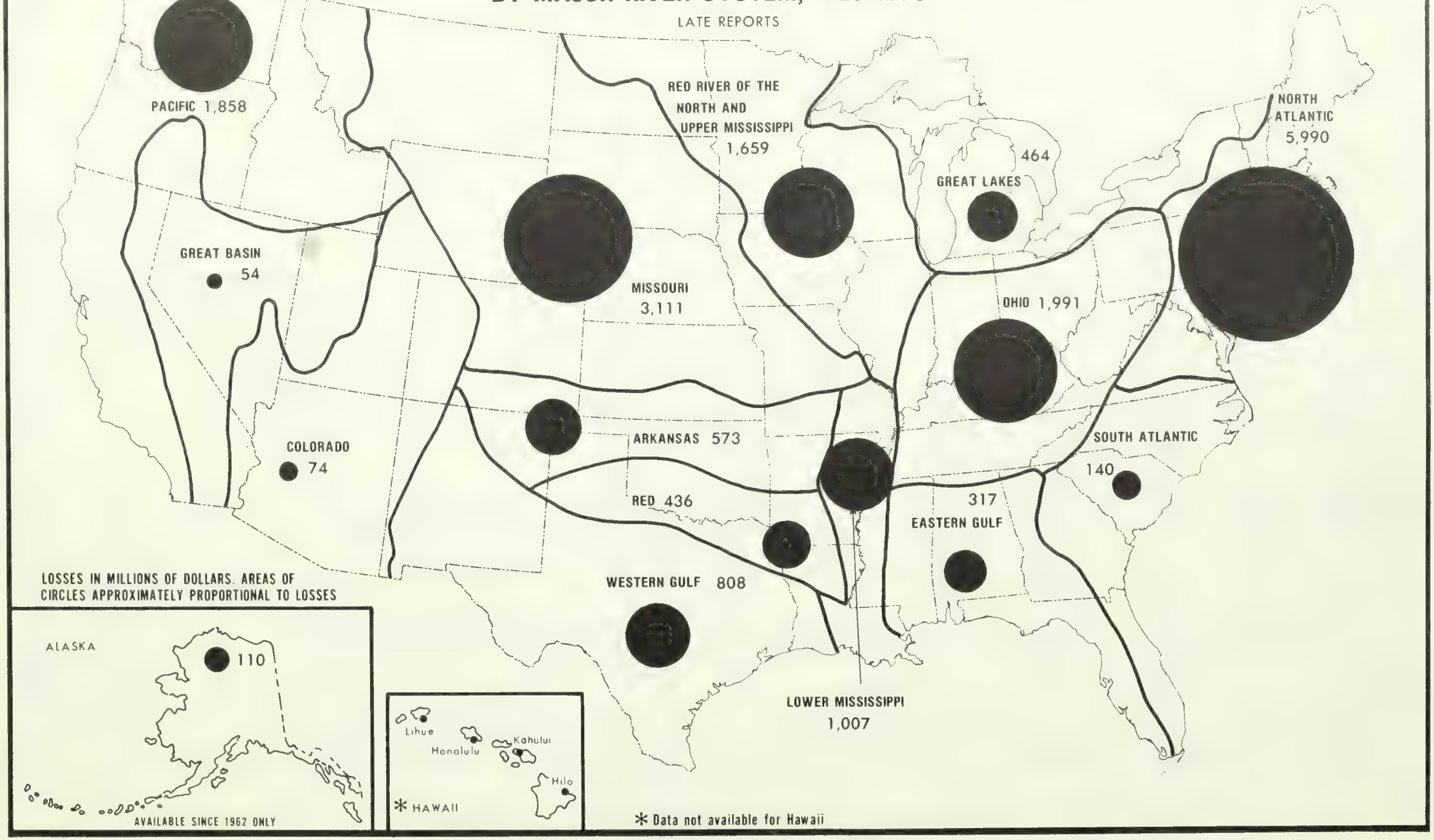
*Including Red River of the North. **The 1966 to 1972 Annual Issues of Climatological Data, National Summary (as well as various earlier issues) contain this table which lists data for the period 1925 to 1932.

LATE REPORTS
LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

PROPERTY LOSSES IN THOUSANDS OF DOLLARS
By Months and Years, 1925-1975

Year	January		February		March		April		May		June		July		August		September		October		November		December		Total	
	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life
1925	3,614	2	141	0	74	0	-	0	65	6	3,980	14	140	0	275	0	1,171	14	380	0	83	0	-	0	9,923	36
1926	19	0	600	0	77	0	293	0	-	0	-	1	55	0	7	0	7,729	6	12,699	6	135	0	1,854	3	23,468	16
1927	2,626	8	1,867	0	407	0	283,207	232	7,566	95	1,125	0	241	0	3,460	0	-	0	1,627	0	45,093	88	437	0	347,656	423
1928	4	0	9	0	758	0	1,168	0	105	0	12,296	1	13,339	0	9,272	3	4,047	5	-	0	3,567	6	46	0	41,611	15
1929	122	0	2,964	0	21,947	47	1,937	0	15,668	5	10,268	5	4,959	32	130	0	92	0	9,379	0	556	0	76	0	68,098	89
1930	7,110	0	7	0	146	0	-	0	5,021	14	3,042	0	244	0	251	0	-	0	29	0	-	0	-	0	15,850	14
1931	-	0	30	0	572	0	-	0	8	0	13	0	1,215	0	201	0	2	0	1	0	744	0	22	0	2,808	0
1932	1,207	0	-	0	165	0	373	0	1,552	0	1,245	0	1,627	0	763	0	2,666	11	335	0	3	0	359	0	10,295	11
1933	308	0	87	0	2,008	1	2,709	4	10,785	4	2,650	4	1,117	0	6,516	4	489	0	10	0	-	0	10,000	16	36,679	33
1934	5,002	45	9	0	706	0	1,693	34	-	0	899	0	178	0	322	9	84	0	28	0	1,287	0	154	0	10,362	88
1935	297	0	1	0	2,177	4	2,698	5	16,903	40	62,702	122	29,370	52	159	5	7,551	0	2,691	0	61	0	2,517	8	127,127	236
1936	341	0	2,107	6	145,936	24	124,743	82	1,118	6	124	0	2,248	20	205	0	5,046	4	378	0	118	0	5	0	282,[illegible]	142
1937	411,481	65	7,691	75	62	0	4,524	0	2,627	0	5,429	0	124	2	760	0	140	0	256	0	97	0	7,546	0	440,738	142
1938	260	0	3,712	2	27,819	86	3,008	0	12,402	0	3,624	58	10,373	9	232	8	39,641	17	3	0	5	0	19	0	101,098	180
1939	3	0	1,657	4	738	0	1,982	0	37	0	4,271	1	1,725	78	3,408	0	13	0	-	0	-	0	-	0	13,834	83
1940	58	0	7,246	0	1,048	2	2,185	0	438	0	2,790	12	5,314	0	18,853	40	2,135	6	88	0	95	0	217	0	40,467	60
1941	3	0	516	0	820	2	1,970	4	3,081	7	12,718	12	314	0	23	0	6,247	15	10,446	7	3,361	0	25	0	39,524	47
1942	131	0	1,901	1	327	0	18,369	2	14,837	31	25,586	1	13,064	17	267	0	3,234	0	5,678	2	-	0	15,113	14	98,507	68
1943	3,579	4	69	5	7,183	8	10,161	5	130,478	57	41,771	0	2,870	3	3,651	25	-	0	-	0	-	0	-	0	199,762	107
1944	3	0	35	1	2,633	3	42,646	13	24,103	0	24,535	16	3,198	0	928	0	1,708	0	108	0	-	0	1,182	0	101,079	33
1945	146	0	5,882	0	33,202	14	54,054	36	23,530	0	28,866	8	8,280	3	2,942	13	1,059	3	1,424	3	-	0	6,413	11	165,798	91
1946	13,385	0	4,015	0	631	0	2	0	12,587	12	20,343	3	1,636	4	1,148	0	7,346	9	1,965	0	1,134	0	6,441	0	70,813	28
1947	486	3	96	0	1,158	0	56,037	2	18,032	1	193,134	48	652	1	1,431	0	455	0	248	0	5	0	304	0	272,328	55
1948	6,479	6	11,429	1	17,896	4	28,667	15	107,244	35	22,160	15	17,550	2	1,144	0	590	0	-	0	3,553	0	13,247	4	229,959	82
1949	9,772	6	5,073	2	11,676	3	9,261	2	18,195	10	32,861	17	3,762	5	568	0	618	0	1,551	2	578	1	16	0	93,931	48
1950	4,619	3	6,925	7	3,451	7	14,668	0	51,126	21	22,340	34	19,224	6	1,687	0	3,718	4	5,562	3	6,638	3	36,092	5	176,050	93
1951	884	0	5,823	2	7,264	1	18,287	2	15,166	6	5,383	8	972,458	25	2,509	7	621	0	-	0	-	0	346	0	1,028,741	51
1952	9,139	14	926	1	1,909	9	199,127	10	6,438	3	22,775	2	3,858	9	296	0	9,376	6	-	0	30	0	190	0	254,064	54
1953	8,575	1	368	0	10,675	2	-	0	41,656	5	53,572	29	3,873	1	1,926	2	887	0	12	0	300	0	330	0	122,204	40
1954	2,554	1	84	0	20	0	557	0	6,213	1	52,076	20	2,218	2	6,606	3	3,170	8	33,341	17	0	0	3	0	106,842	52
1955	-	0	1,620	4	17,372	17	2,653	4	9,231	2	3,825	1	1,071	0	712,085	193	3,471	0	52,442	18	1,168	0	190,553	63	995,491	302
1956	9,455	0	2,731	3	3,103	2	1,202	0	24,799	10	2,300	4	5,849	15	11,671	4	-	0	1,892	0	137	3	1,249	1	64,388	42
1957	61,383	15	29,750	2	-	0	106,130	18	44,182	13	101,696	32	4,669	0	722	2	335	0	2,663	0	8,610	0	163	0	360,303	82
1958	273	0	12,561	11	11,193	0	21,145	3	24,864	2	67,537	0	42,779	29	18,631	1	11,560	0	2,336	1	2,416	0	-	0	218,[illegible]	47
1959	95,601	8	2,448	0	2,031	6	427	0	7,181	8	890	0	557	0	5,550	0	1,844	0	19,602	3	4,970	0	154	0	141,255	25
1960	534	1	713	2	29,988	1	28,056	0	2,214	3	9,956	13	9,038	1	677	0	5,266	0	5,818	6	360	0	356	0	92,976	27
1961	32	0	13,870	1	11,242	3	5,053	0	67,785	6	4,324	4	5,825	25	3,974	6	26,041	7	580	0	1,161	0	10,666	0	154,[illegible]	[illegible]
1962	884	0	21,906	9	28,117	1	8,920	0	1,893	0	2,265	2	2,128	1	708	0	3,266	3	-	0	880	0	970	0	75,[illegible]	16
1963	2,343	0	16,392	0	99,429	31	2,302	0	1,573	0	14,682	3	4,261	4	36,926	1	38	0	-	0	-	0	-	0	177,946	39
1964	787	0	15	0	97,945	14	16,763	1	1,313	0	71,666	37	29	0	517	0	5,477	3	16,432	1	[illegible]	2	439,948	42	651,64[illegible]	100
1965	11,984	0	2,566	2	4,158	1	180,337	16	36,328	3	195,750	66	21,705	17	193	0	9,652	0	891	0	-	0	22,379	14	788,[illegible]	119
1966	13,114	0	12,823	2	2,012	1	10,460	16	1,315	0	1,377	1	810	1	17,773	0	658	0	-	0	528	2	[illegible]	[illegible]	117,[illegible]	31
1967	2,213	0	-	0	42,182	4	6,453	0	5,013	1	104,097	5	1,191	1	7,877	0	101,135	11	110	[illegible]	-	2	[illegible]	7	375,[illegible]	[illegible]
1968	7,436	1	2,971	0	45,925	2	2,053	0	245,670	17	11,216	0	16,350	3	1,009	3	591	0	101	0		0	[illegible]	2	339,[illegible]	31
1969	302,378	61	108,781	8	4,065	1	179,999	9	8,798	4	35,403	3	118,455	33	123,524	157	4,557	0	4,931	2	2,000	3	[illegible]	13	902,[illegible]	2[illegible]
1970	50,911	18	257	1	10,147	3	13,914	8	28,622	6	29,417	3	1,002	4	3,595	10	16,214	25	67,045	63	111	[illegible]	1,188	1	225,[illegible]	[illegible]
1971	[illegible]	[illegible]	12,[illegible]	1	[illegible]	0	2,781	0	7,[illegible]	2	6,366	2	6,274	5	157,450	29	[illegible]	22	2,[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	287,[illegible]	[illegible]
1972	[illegible]	1	11,51[illegible]	128	[illegible]	0	19,238	4	29,950	23	1,229,819	350	21,222	2	26,758	1	40,915	9	52,857	24	[illegible]	[illegible]	[illegible]	[illegible]	1,465,[illegible]	[illegible]
1973	10,478	1	16,52[illegible]	[illegible]	138,[illegible]	14	109,591	38	540,262	21	209,459	30	7,709	11	43,897	8	74,706	4	128,246	10	[illegible]	[illegible]	[illegible]	[illegible]	1,894,[illegible]	148
1974	[illegible]	[illegible]	26,[illegible]	[illegible]	14,[illegible]	[illegible]	15,870	21	121,987	10	144,976	17	2,89[illegible]	[illegible]	5,548	[illegible]	25,140	13	10,154	[illegible]	[illegible]	24	[illegible]	[illegible]	576,[illegible]	121
1975	[illegible]	[illegible]	[illegible]	13	[illegible]	8	261,[illegible]	[illegible]	51,[illegible]	2	182,956	3	253,561	18	26,[illegible]	9	178,913	17	11,173	1	[illegible]	1	[illegible]	[illegible]	1,373,[illegible]	[illegible]
Total	[illegible]	291	[illegible]	297	1,247,[illegible]	[illegible]	2,231,778	591	1,789,921	492	6,404,[illegible]	1007	1,662,117	452	1,276,[illegible]	548	972,[illegible]	284	418,128	171	[illegible]	145	[illegible]	[illegible]	[illegible]	4,81[illegible]
Average	[illegible]	6	7,[illegible]	6	24,[illegible]	7	43,819	12	35,079	10	125,600	20	32,591	9	25,032	11	19,069	[illegible]	8,187	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]

DISTRIBUTION OF ESTIMATED FLOOD LOSSES IN THE UNITED STATES BY MAJOR RIVER SYSTEM, 1925-1975



LOSSES IN MILLIONS OF DOLLARS. AREAS OF CIRCLES APPROXIMATELY PROPORTIONAL TO LOSSES

* Data not available for Hawaii

LATE REPORTS

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902

Property Losses in Thousands of Dollars

Date *	Location	Lives **	Property
May-June 1903	Kansas, Lower Missouri, and Upper Mississippi Rivers	100	$ 40,000
March 1912	Lower Mississippi River	---	70,000
March 1913	Ohio River and tributaries	467	147,000
December 1913	Texas Rivers	177	9,000
June 1921	Arkansas River in State of Colorado	120	25,000
September 1921	Texas Rivers	215	19,000
Spring of 1927	Mississippi Valley	313	284,118
November 1927	New England Rivers	88	45,578
May-June 1935	Republican and Kansas Rivers	110	18,000
July 1935	Upper Susquehanna Tributaries	52	26,000
March-April 1936	Rivers in Eastern United States	107	270,000
Jan.-Feb. 1937	Ohio and Lower Mississippi River Basins	137	417,685
March 1938	Streams in Southern California	79	24,500
September 1938	Rivers in New England	---	37,000
July 1939	Licking and Kentucky Rivers	78	1,715
August 1940	Rivers in Southern Virginia, the Carolinas, and Eastern Tennessee	40	12,000
May 1942	Delaware and Susquehanna River Basins	33	13,000
July 1942	Upper Allegheny River and Sinnamahoning Creek Basins	15	10,000
Nov.-Dec. 1942	Willamette River	10	6,900
April-June 1943	Maumee, Wabash, Upper Mississippi, Missouri, White, and Arkansas River Basins	60	172,500
August 1943	Little Kanawha River	23	1,300
April-June 1944	Upper Mississippi, Missouri, Arkansas, Red, and Lower Mississippi River Basins and East Texas Rivers	17	82,000
Feb.-March 1945	Ohio River	18	30,000
May-July 1947	Lower Missouri and Middle Mississippi River Basins	29	235,000
May-June 1948	[1]Columbia River Basin	35	101,725
May 1949	Trinity River	10	14,000
June 1949	Shenandoah and Potomac Rivers	11	8,850
June 1950	Rivers in Central West Virginia	31	4,020
June-July 1951	[2]Kansas and Missouri	28	923,224
April 1952	[3]Red River of the North, Upper Mississippi, and Missouri River Basins	11	198,000
April-May 1953	Louisiana and Texas	12	38,959
June 1953	Northwestern Iowa	14	32,950
June 1954	Middle Rio Grande and Lower Pecos Rivers	16	19,079
October 1954	Pecos River in New Mexico	13	1,783
March 1955	Ohio River Basin	15	14,396
August 1955	[4]Hurricane "Dianne" Floods in the Northeast	187	714,079
December 1955	[5]West Coast Rivers	61	154,532
Jan.-Feb. 1957	[6]Streams in Southeastern Kentucky, Southwestern West Virginia, and adjacent areas in Tennessee and Virginia	14	58,000
February 1957	Snake River and Tributaries	---	20,500
April-June 1957	Rivers in Texas, Arkansas, Kansas,Louisiana, Missouri and Oklahoma	18	105,000
June-July 1957	Wabash River and Tributaries	---	63,000
June 1958	White and Wabash Rivers	---	57,000
July 1958	Flash Flood on East Nishnabotna River (Iowa)	19	5,850
January 1959	Ohio River Basin	---	81,921
July 1961	Flash Flooding on Small Streams in Charleston, W.Va.	22	3,238
March 1963	Ohio River Basin	26	97,600
June 1964	Montana	31	54,279
December 1964	California and Oregon	40	415,832
March 1964	Ohio River Basin	13	81,602
March-May 1965	[7]Upper Mississippi, Missouri, and Red River of the North River Basins	16	181,325
May 1965	Brazos River	---	30,802
June 1965	South Platte River Basin	16	415,076
June 1965	Sanderson, Texas Flash Flood	26	2,715
June 1965	Arkansas River Basin	16	58,340

LATE REPORTS

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902

Property Losses in Thousands of Dollars

Date*	Location	Lives **	Property
April-May 1966	Sabine and Trinity Basins, Texas	14	$ 20,100
June 1967	Platte River Basin in Nebraska	---	35,275
September 1967	Hurricane "Beulah" floods in Texas	---	98,239
August 1967	Tanana and Chena Rivers in Alaska	---	98,550
May 1968	Rivers in Northern New Jersey	---	166,690
Jan.-Feb. 1969	Floods in California	60	399,233
March-April 1969	[8]Snowmelt Floods in Upper Midwest	---	151,000
July 1969	Northern Ohio	30	87,915
August 1969	[9]James River Basin in Virginia	153	116,000
January 1970	Sacramento River Basin	18	38,120
September 1970	Arizona	23	5,000
October 1970	Puerto Rico	50	62,000
August 1971	New Jersey ("Doria" rainfall)	---	138,700
September 1971	Southeastern Pennsylvania	13	19,010
February 1972	Buffalo Creek, West Virginia	125	10,000
May 1972	South-central Texas Flash Floods	18	17,500
June 1972	Black Hills of South Dakota	237	164,947
June 1972	[10]Eastern U.S. (Hurricane "Agnes" floods)	105	4,019,721
Spring 1973	Mississippi System	33	1,154,770
May 1973	South Platte Basin in Colorado	---	120,400
May 1973	Flash Flooding in Mountains of North Carolina and Southwest Virginia	12	29,485
June 1973	Connecticut Basin in Vermont, Connecticut and New Hampshire	11	64,000
June 1973	San Jacinto Basin and small adjacent basins in southeast Texas	10	62,500
January 1974	Northern California & Oregon coastal rivers and Columbia Basin	12	142,641
May-June 1974	Mississippi River tributaries in Missouri, Illinois, and Iowa	---	129,510
May 1974	Platte River Basin in northwest Missouri	---	34,177
Spring 1975	Mississippi Basin	---	168,669
June-July 1975	Red River of North Basin	---	273,114
September 1975	Hurricane "Eloise" floods in Puerto Rico and northeastern United States	50	470,274

* The 1966 to 1972 Annual Issues of Climatological Data, National Summary (as well as various earlier issues) contain this table which lists additional significant severe floods during the period of record.

** No entry indicates that fewer than ten lives were lost.

References

1. Monthly Weather Review, January 1949
2. Technical Paper No. 17
3. Technical Paper No. 23
4. Technical Paper No. 26
5. Climatological Data, National Summary, December 1955
6. Climatological Data, National Summary, January 1957
7. Technical Paper No. WB-3
8. NOAA Technical Report No. 13
9. Climatological Data, National Summary, October 1970
10. Climatological Data, National Summary, June 1972; Geological Survey Professional Paper 924

FLOOD DAMAGE ESTIMATES BY STATES

Flood Losses in Thousands of Dollars

States	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Alabama	3,379	720	2,324	872	-	670	12,625	3,529	1,280	5,343	723	2,366
Alaska	-	*		-	-		**	***	-	-		
Arizona	226	-	-	-	100	-	325	1,000	-	55	11,330	3,050
Arkansas	61	255	27,938	6,202	3,090	580	3,503	91	2,500	[illegible]	143	[illegible]
California	165,767	8,745	13	33,063	4	516	95	2,780	11,834	229,168	11,321	24,347
Colorado	2,567	5,135	2,901	240	-	-	-	80	80	-	452,293	707
Connecticut	379,360	-	-		-	[illegible]	-	-	-			
Delaware	117	-	-	-	-	-	-	-	-	-	-	-
District of Columbia	-	51	-	60	-	-	-	-	-	-	-	
Florida	105	1,891	-	-	150	12,047	317	1,481	-	426	144	[illegible]
Georgia	1	212	1,068	323	-	392	5,236		445	3,641	397	1,628
Hawaii	-	-		400			-	-	2,300			
Idaho	1,371	6,222	20,896	3	[illegible]	-	939	8,112	2,766	11,704	4,184	
Illinois	102	1,026	1,206	17,970	1,506	7,503	11,553	891	513	3,044	30,564	[illegible]
Indiana	1,003	4,021	66,748	52,302	12,958	2,649	13,306	670	8,266	12,327	20	3,098
Iowa	35	51	1,543	7,508	128	7,612	9,389	6,778	70	240	32,462	904
Kansas	474	33	9,164	4,606	4,061	1,947	13,397	1,826	168	370	29,792	97
Kentucky	6,629	568	55,233	3,817	2,480	3	12,969	16,885	36,917	35,476	1,044	1,671
Louisiana	30	-	4,147	2,842	-	112	6,074	1,908	-	30		250
Maine	-	-	-	-	61		800					[illegible]
Maryland	5,450	837		40	-	-	-		-	-	53	
Massachusetts	155,982		-	-	-	6,400	-			-	-	-
Michigan	-	1,278		-	-	1,181	-	-	-	-	-	
Minnesota	-	11	9,128	17	50	212	552	1,290	26		97,603	4,300
Mississippi	3,132	1,270	2,693	13,826	280	744	15,918	1,982	19	3,152	1,931	2,706
Missouri	666	167	9,618	38,718	6,018	13,506	27,375	[illegible]	[illegible]	[illegible]	33,976	2,781
Montana	63	317	33	1	82	57	-	147	148	4,389	[illegible]	
Nebraska	1,500	865	5,983	3,064	3,753	8,884	674	2,630	13,394	5,146	1,368	11,628
Nevada	7,398	237	-	-	-	-	891	762	2,858	2,454	4	307
New Hampshire	-	-	-	-	4,500	100	-	-	-		-	
New Jersey	23,102	-		3	-	-	-	-		-		
New Mexico	1,066	-	-	-	-	-		-	620	1,235	4,833	[illegible]
New York	30,072	1,089	166	42	5,667	7,229	608	-	33,102	3,275	-	-
North Carolina	625	831	788	3,201	506	100	1,400		-	15,816	88	198
North Dakota	2	-	100	-	28	136	-	-	-	-	5,192	9,700
Ohio	753	1,056	7	4,867	54,840	191	1,217	6,512	[illegible]	28,039	-	1,893
Oklahoma	977	-	35,665	169	8,907	2,638	2,183	792	[illegible]	798	2,508	12
Oregon	9,515	6,376	310	363	20	360	757	1,550	299	187,101	5,679	2,283
Pennsylvania	141,381	7,199	1,048	3,582	21,109	3,072	612	15	5,397	16,938	-	705
Rhode Island	28,830	-	-	-	-	-	-	-	-	-	-	
South Carolina	74	-	60	680	122	72	369	97	89	1,809	268	140
South Dakota	11	10	3,969	-	-	3,417	1	3,030	-	-	740	470
Tennessee	977	279	5,118	128	-	226	2,263	651	6,262	[illegible]	2,472	1,608
Texas	5,165	3,715	78,881	18,101	2,886	8,093	2,816	1,948	20	5,435	39,395	28,001
Utah	226	210	169	10	4	-	281	1,272	64	70	1,746	1,577
Vermont	-	-	3	-	-	-	-		-	692	-	-
Virginia	10,695	-	139	-	28	211	231	-	5,937	-	2	
Washington	1,165	6,472	1,664	50	4,914	-	130	-	1,013	11,817	1,012	[illegible]
West Virginia	5,187	3,185	11,052	1,170	709	370	3,455	5,914	17,624	4,169	49	1,868
Wisconsin	50	335	-	-	1,791	996	1,442	57	142	-	14,067	361
Wyoming	200	11	526	3	-	-	-	-	899	138	390	-
TOTAL	995,491	64,688	360,303	218,255	141,255	92,976	154,033	75,237	177,946	651,642	788,046	117,004

States	1967	1968	1969	1970	1971	1972	1973	1974	1975
Alabama	1,695	408	88	10,891	2,170	2,278	5,439	1,731	19,817
Alaska	98,550	-	-	-	8,631	1,099	[illegible]		
Arizona	3,576	188	-	5,000	3,476	20,868	-	2,605	927
Arkansas	1,497	21,099	3,411	639	2,549	1,780	129,579	8,746	21,387
California	1,370	-	423,296	47,798	3,522	1,132	9,480	27,124	1,845
Colorado	-	-	66	2,040	-	15	121,383	-	-
Connecticut	-	100	528	-	-	15,414	1,950	-	9,360
Delaware	-	-	-	-	50	-	-	-	-
District of Columbia	-	-	-	-	-	2,533	-	-	3,000
Florida	95	46	2,858	145	476	41,206	2,282	23,050	15,839
Georgia	23	133	79	348	243	328	5,143	[illegible]	3,002
Hawaii	1,029	2,500	-	-	500	-	-	3,869	-
Idaho	792	-	111	38	1,187	355	-	36,118	378
Illinois	2,629	2,576	9,095	9,124	462	5,927	258,704	75,068	20,598
Indiana	4,618	22,463	6,672	2,300	1,690	4,700	6,326	15,805	12,317
Iowa	4,416	1,650	6,233	977	684	13,262	[illegible]	[illegible]	[illegible]
Kansas	15,093	2,304	10,991	4,138	1,644	1,646	53,772	[illegible]	[illegible]
Kentucky	17,583	6,036	8,075	707	6,099	15,841	10,491	5,218	26,302
Louisiana	-	2,810	251	1,000	-	100	334,904	10,343	90,204
Maine	-	-	300	-	-	-	11,200	3,000	
Maryland	125	-	200	15	8,600	218,206			24,200
Massachusetts	-	35,000	-	-	-	10			
Michigan	-	100	13	-	-	10	530	240	54,358
Minnesota	-	1,197	67,168	4,350	15	64,318	242	16,939	139,726
Mississippi	1,192	6,269	1,900	3,586	12,431	10,248	226,885	27,827	70,990
Missouri	39,080	890	36,601	14,926	191	[illegible]	[illegible]	[illegible]	[illegible]
Montana	2,947	-	388	581	412	[illegible]		[illegible]	[illegible]
Nebraska	40,644	6,029	1,826	-	5,941	73	10,388	126	-
Nevada	45	1	-	138	-	-	-	1,000	6,200
New Hampshire	-	800	400	-	-	-	19,100		
New Jersey	1,438	166,690	580	-	138,700	[illegible]	[illegible]		60,687
New Mexico	-	-	-	-	-	6,613	251		[illegible]
New York	777	-	3,383	3,953	1,000	747,674	5,000		60,064
North Carolina	1,168	-	1,338	2,326	965	10,772	39,004	1,028	7,932
North Dakota	-	-	37,436	13,832	1,266	537		8,291	154,715
Ohio	6,622	20,074	87,916	2,478	782	12,923	[illegible]	[illegible]	[illegible]
Oklahoma	3	3,021	762	5,212	23,166	12,006	[illegible]	[illegible]	[illegible]
Oregon	1,044	538	938	2,518	4,350	12,977	2,699	64,017	7,898
Pennsylvania	7,251	421	3,310	365	20,899	2,786,294	5,935		270,600
Rhode Island	588	9,000	-	-	-	-			
South Carolina	579	-	625	52	295	69	7,674	78	1,477
South Dakota	1,125	123	31,898	19	-	165,086		268	
Tennessee	1,090	648	1,090	13,260	86	6,631	66,273	2,243	12,700
Texas	98,259	24,267	12,878	3,150	26,538	20,605	136,758	41,707	23,074
Utah	453	1,260	237	222	1,033	[illegible]	2,270		212
Vermont	-	100	680	-		10	66,466		200
Virginia	581	-	123,552	148	1,158	180,770	1,615	100	18,340
Washington	1,910	611	2,722	380	3,908	[illegible]	-	21,318	42,289
West Virginia	14,235	47	5,996	297	1,653	37,974	3,359	10,375	5,913
Wisconsin	-	-	4,763	-	-	-	6,121	50	3,041
Wyoming	1,096	-	-	500	503	-	304	18	-
TOTAL	375,218	339,399	900,654	157,453	287,275	1,465,135	1,894,493	566,203	1,248,269

*Major flood in May 1956 **Major flood in June 1961 ***Ice jam flooding [illegible] 1962 also serious f[illegible] [illegible] June 1962

Chart 1. Departure from Normal of Annual Temperature (°F) at Surface, 1977.

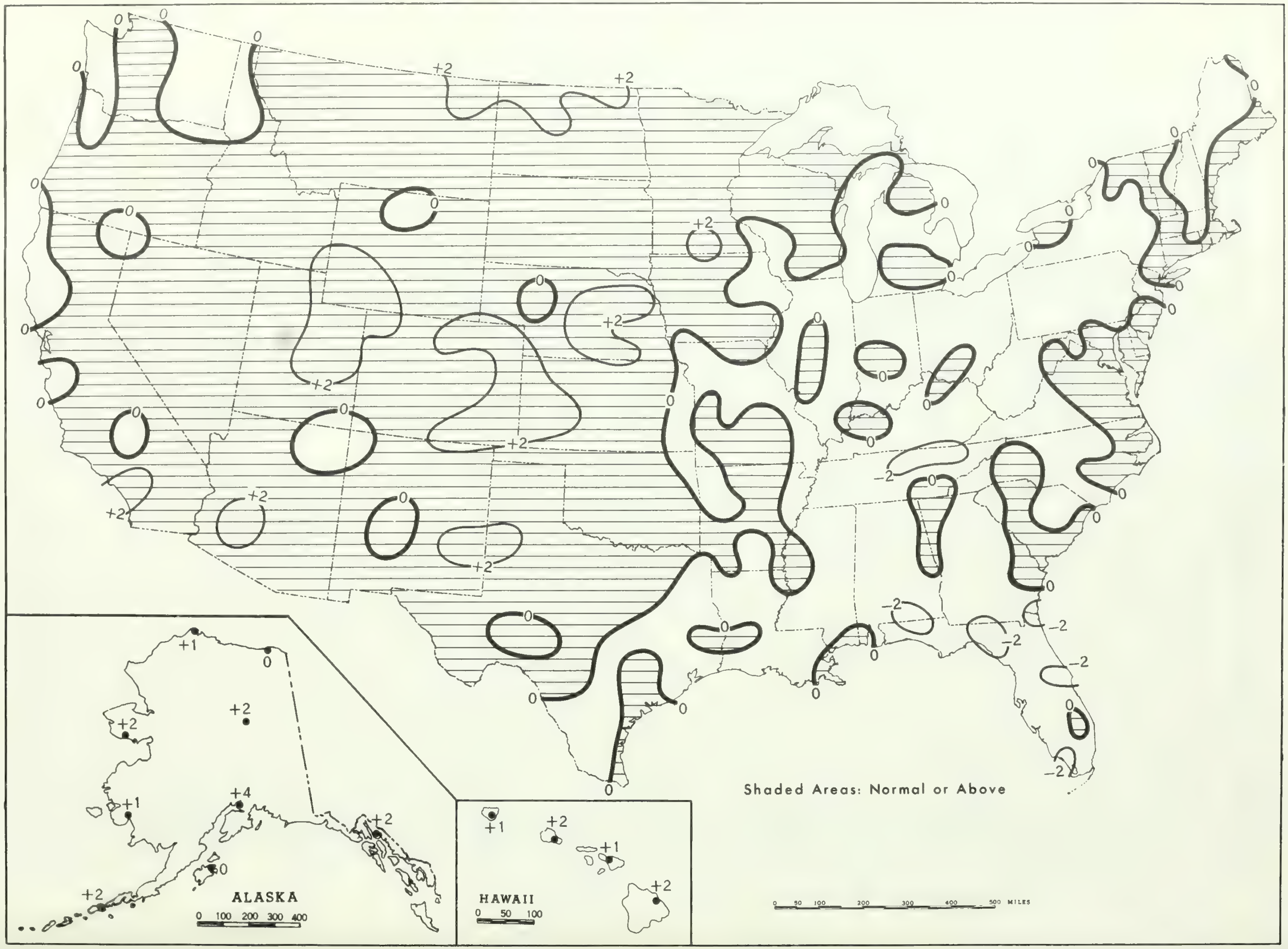


Chart II. Total Annual Precipitation (inches), 1977.

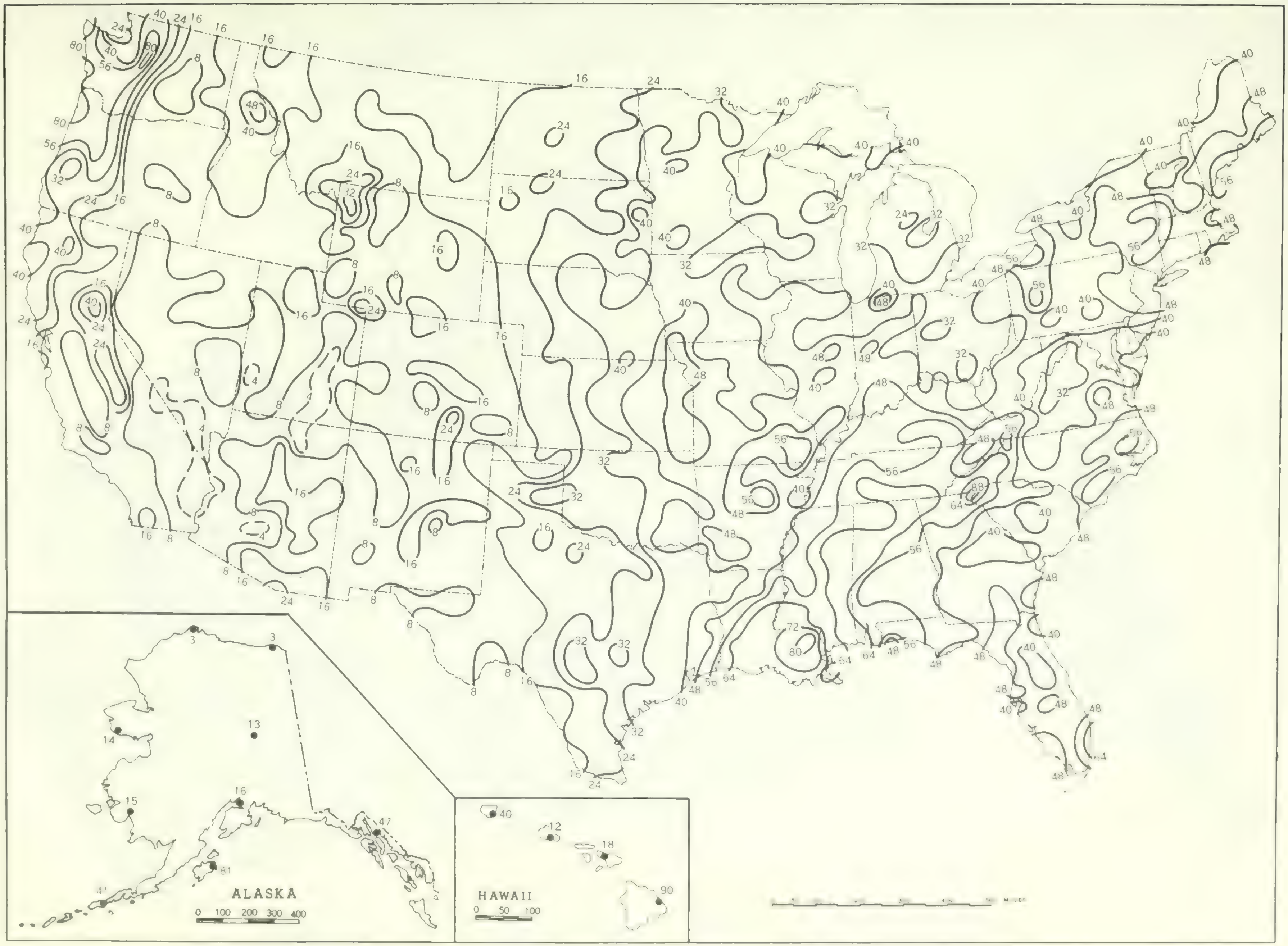
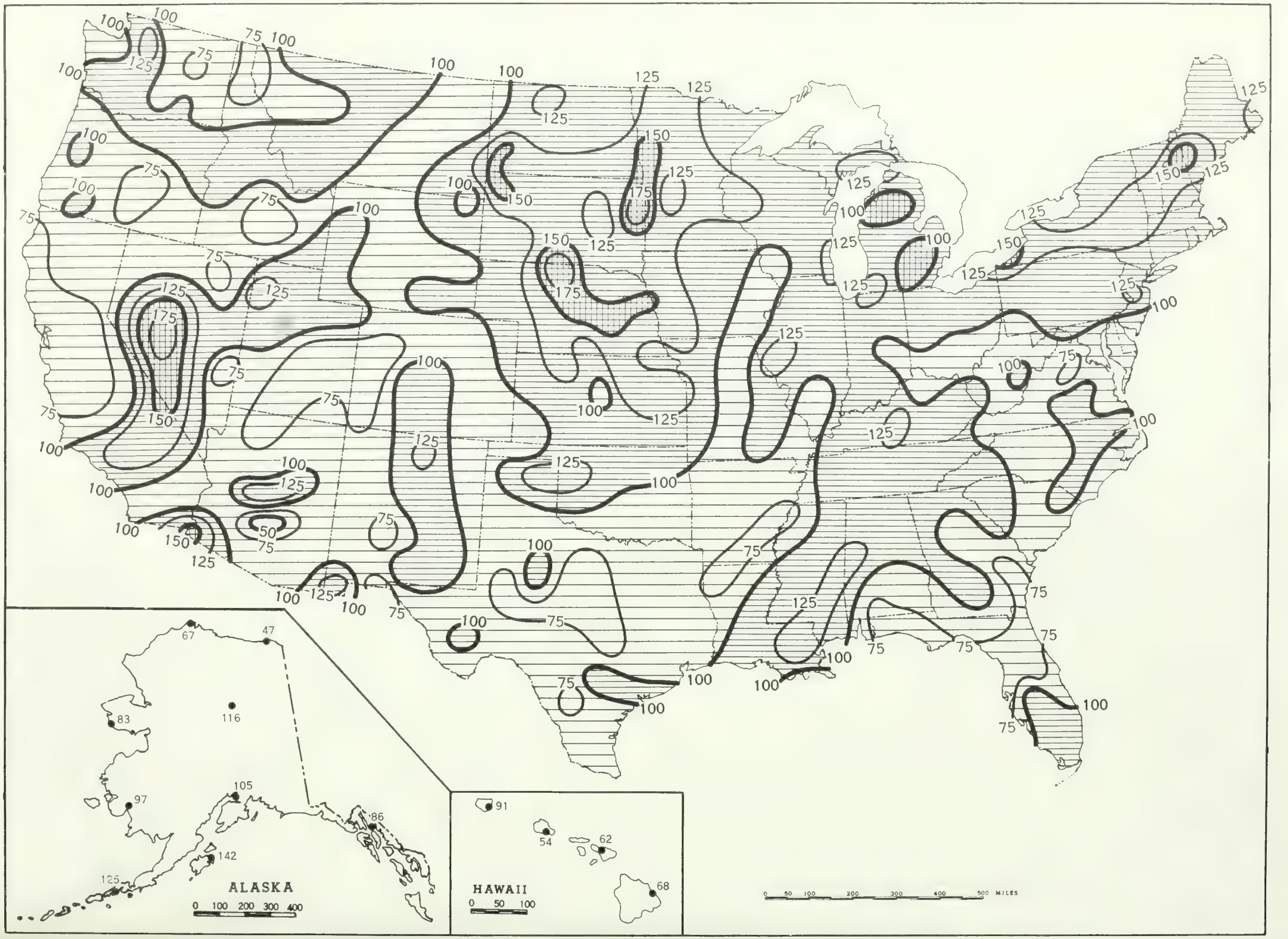


Chart III. Percentage of Normal Annual Precipitation, 1977.



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